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Title of Master's thesis:

CONFRONTING FACELESSNESS:
local centrality as a tool of transformation for Santa Coloma de Gramenet

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Abstract

Over the XX century a great number of cities experienced unprecedented growth of population and expansion of their territory. As a result of this process peripheries of many cities became occupied by shantytowns and urban sprawl, faceless and often unstructured settlements. The main aim of the present work is to define a possible way to improve such deteriorated urban environments by the example of the city of Santa Coloma de Gramenet located in Barcelona Metropolitan area.

Santa Coloma de Gramenet is an explicit example of a city that underwent a stage of fast uncontrolled growth. Due to mass immigration to Catalonia that took place in the second half of XX century this city housed numerous families of industrial workers. Acute demand for affordable housing caused burst of civil construction during which surrounding territory was intensively urbanized. Developers working here were acting independently, without any kind of coordination, not taking in account the city as a whole, hence collective interests were neglected in favor of private ones. As a result of such unrestricted growth present Santa Coloma lacks unifying structure, it is a territory without a model. The urban fabric of Santa Coloma consists of numerous patches characterized by different grids and patterns. Tension between patches with different grids produces conflicting areas - points of discontinuity, areas where urban fabric loses coherence and open space is presented as a merely residual land left after urbanization.

In order to improve urban form of Santa Coloma we propose to affect exactly these points. We propose to create in these deteriorated areas a net of local centers by inserting there new buildings with diverse programs. These centers will become places where citizens are able to find different public services and amenities within walking distance. Moreover, each center will acquire certain identity and character by creating an impressive public space, a scenery of social life. In order to elaborate conditions generating identity we examine urban space as a combination of its elements. After definition of basic constituent parts we try to formulate a pattern of characteristics that would be presented in each of local centers. This recurring set of signs will endow urban space of Santa Coloma with recognizable familiarity.

As a result of this transformation the city of Santa Coloma will obtain distinctive identity and will become more meaningful for its citizens. The network of new urban spaces will facilitate navigation and give the city a clear image. Facilities concentrated in new nuclei of urbanity will promote social interaction and encourage creation of tight-knit communities. Generally the set of

aforementioned measures is intended to change existing peripheral status of Santa Coloma and to turn it into self-contained urban entity.

Nowadays in developed countries dynamics of urban expansion slowed down whereas improvement of existing environments is becoming primary objective. Considering this, the strategy and methods of transformation for shapeless areas will remain relevant for future development of peripheral territories throughout the world.

Keywords: *local centrality, urban space, identity, discontinuity, uncontrolled growth.*

Acknowledgements

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Index:

Introduction

Nowadays as the process of urbanization in developed countries slowed down the main attention is drawn to existing urban environments. The decades of intense construction passed, and major efforts could be directed to correction and improvement of deteriorated areas. This process is underway in many cities, numerous cases of gentrification in lower class neighborhoods clearly reflect this trend. Among territories to be improved special place is taken by peripheral areas which have been treated with negligence for a long time. Peripheries are often associated with urban sprawl and slums, they are characterized by anonymous and monotonous architecture depriving them of identity and sense of place.

In the scope of the present work we try to elaborate the strategy of transformation for peripheral zones using the city of Santa Coloma de Gramenet in Barcelona Metropolitan area as a place of possible intervention. Doing this we define the way to turn faceless area of Santa Coloma into intense urban environment with clear image and structure. In order to face illegibility of Santa Coloma urban shape we focus on formation of a network of nuclei of urbanity, a system of local centers. Meanwhile, developing the concept of local centrality, we define necessary qualities of public space in each of those centers. The condition of public space has crucial influence on quality of urban environment. On this topic Portuguese architect Nuno Sampaio wrote: "*The degree of crisis in a city's "urban quality" can be measured by analyzing the typologies of public space: the square, the street and the park*" [1].

The analysis is divided into two parts: the first is dedicated to a city-wide transformation, in the second we investigate intervention on local level and explain the strategy with an example of a student project. In the first part we analyze different concepts of dispersed centrality and then investigate the existing urban form of Santa Coloma in order to define a way to create a network of local centers throughout Santa Coloma. After that we propose a possible system of local centers. We start the second part with investigation of elements that constitute urban space, we examine existing theories and examples from contemporary practice and formulate a set of suggestions for Santa Coloma. After that we analyze a project of possible intervention with the example of a student work wherein an author made a design proposal for particular local center, we explain the intentions and methods utilized by the student.

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1. Editor Aquiles González Raventós. *La Gran Escala. Architecture and Other environments.* Article "The contemporary architect and the "Global City" versus Oporto" by Nuno Sampaio. Barcelona: ACTAR, 2003. 211 pages. ISBN: 84-607-7521-6

Definitions

Facelessness - a derivative from faceless.[2]

Faceless - (Of a person) remote and impersonal; anonymous.[2]

- (Of a building or place) characterless and dull.[2]

- not having any unusual and interesting qualities.[3]

With regard to urban environment *facelessness* means the absence of structural order, a backbone that turns dispatched parts into the cohesive whole, it is a state when elements of composition are not in well-balanced relationships.

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2. Oxford Dictionaries. Available at:
http://www.oxforddictionaries.com/definition/american_english/faceless
3. Merriam-Webster.
Available at: http://www.merriam-webster.com/thesaurus/facelessness

Hypothesis

Figure 1. Deteriorated areas as points of possible intervention in Santa Coloma urban fabric, drawn by the author

We try to improve peripheral zone by endowing it with qualities usually attributed to city centers. Among such qualities specific significance is given adequate amount of public space and the role it plays in city life. Thus, to achieve this goal we propose to create net of systematically distributed local centers each accentuated by expressive public space. Affecting public space of Santa Coloma by inserting these nodes of new centrality we meanwhile improve deteriorated areas and restore continuity of urban fabric.

Chapter I:

LOCAL CENTRALITY AS A TOOL OF TRANSFORMATION

I.1. City of small communities

In the past, before the development of mechanized transport, small communities had been emerging naturally as life of citizens was closely connected to a small territory limited by human ability to walk on foot. The places where main activities took place were concentrated within small area, sometimes even within confines of a building where people lived and worked. The emergence of advanced transport systems allowed citizens to move long distances with high speed which in turn gave possibility to have places for living, work and leisure located far apart. Thus a lot of urban dwellers became commuters working in the city center and living outside the city. Moreover this situation was aggravated by the practices of Modernist city planning that encouraged further separation of basic activities by establishing functional zones which led to dissolution of local communities. Nowadays many cities are inhabited by thousands of anonymous citizens who despite their great number are not capable of constituting tight-knit community.

I.1. 1. The concept of city of small communities

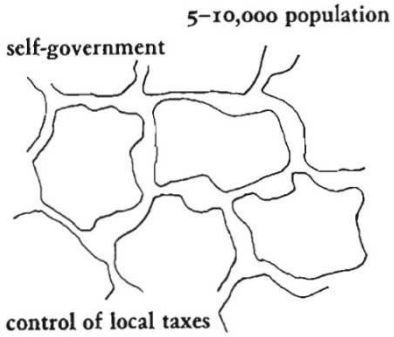


Figure 2. Christopher Alexander. Small communities.[4]

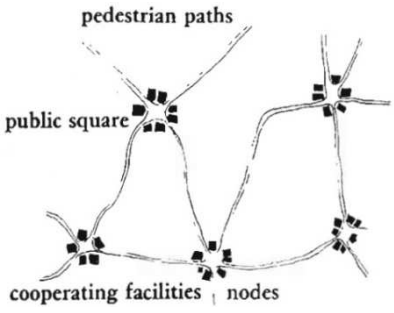


Figure 3. Christopher Alexander. Activity nodes.[5]

Considering these shortcomings of contemporary cities historical forms of urban organization are becoming relevant again. Some theoreticians proposed to revitalize urban environments using traditional patterns of a city as an aggregation of small communities. Thus Austrian architect Christopher Alexander put forward the idea a self-governing community of 7000 citizens as an element constituting a city. He wrote: "*Individuals have no effective voice in any community of more than 5.000-10.000 citizens.*"[6] This size is based on the assumption that if every person knows at least 12 citizens in his community it means that he/she knows at least one member of each family (3 members) through two acquaintances (12^3 x 3 = 5184). Alexander believes that community of this size allows to overcome the disjunction between people and centers of power which in turn can make government visible.

4-6. Christopher Alexander. A Pattern Language: towns, buildings, construction. New York: Oxford University Press, 1977. 1171 pages. ISB-13 978-0-19--501919-3

In order to generate local community Alexander proposed to create nodes of activity on junctions of paths, areas with high density of civic functions. He insisted that facilities dispersed far apart throughout a territory don't facilitate public life. In each node of activity pedestrian routes converge on a small public square surrounded by mutually supportive facilities. For example in this way evening entertainments could be grouped together. Such concentration of activities facilitates public life and helps to build cohesive community.

Similar strategy of reconstruction of urban life was expressed by Luxembourgian urban planner Leon Krier. Working on proposal for Stockholm he suggested to reevaluate validity of division of cities into quarters as it had been habitual before the Modern era. Comparing traditional quarters and functional zones of Modernist layouts he recognized numerous advantages of traditional pattern among which are encouragement of communal life, legible identity and benefits for pedestrians. Krier proposed to consider a quarter as a prime element constituting a city, like a brick in a wall, thereby a city is presented as a congregation of smaller cities with their own centers, limits and communities. In order to overcome fragmentation of contemporary city each quarter has to be an autonomous entity integrating all the main functions of a city within its territory. As an example of this "brick" he took the historical city of Stockholm called Gamla stan. Located on a small island, this part of Stockholm didn't have an opportunity to expand so its form, size and structure were not distorted by contemporary urban development. Taking its size, structure and number of residents Krier proposed to repeat the pattern of Gamla Stan throughout Stockholm.

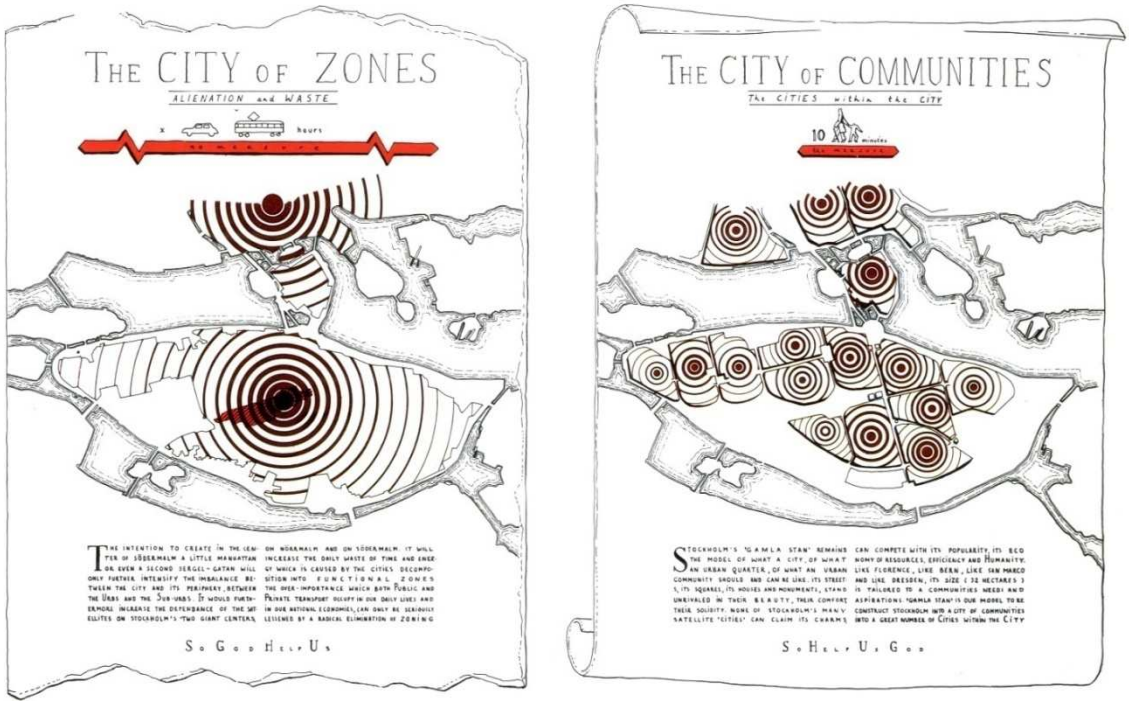


Figure 4. Leon Krier. Proposal for Stockholm, 1981 [7]

7. Andreas Papadakis. *Leon Krier. Houses, Palaces, Cities*. London, Great Britain: Architectural Design, AD Editions, 1984. 127 pages. ISBN 0-85670-844-5(UK)

Describing his vision of urban development Krier wrote: "*A city can only be reconstructed in the form of Urban Quarters. A large or a small city can only be recognized as a large or a small number of urban quarters; as a federation of autonomous quarters. Each quarter must have its own centre, periphery and limit. Each quarter must be a city within a city. The Quarter must integrate all daily functions of urban life (dwelling, working, leisure) within a territory dimensioned by on the basis of the comfort of a walking man; not exceeding 35 hectares in surface and 15,000 inhabitants."* [8] Justifying establishment of maximum size for a quarter Krier claimed that community of people is effective when it doesn't exceed certain size. "*Like tree or a man, human community cannot exceed a certain dimension without becoming a monster: either a giant or a dwarf*."[9]

Similar representation of urban development was also conveyed by Barcelonese architect and urban planner Oriol Bohigas, who wrote that "*it is necessary to understand the city not as a global, unitary system but as a number of relatively autonomous small systems. In the case of the reconstruction of the existing city, these autonomous systems may coincide with the traditional neighborhood make-up. I believe that this understanding of the city as the sum of its neighborhoods or identifiable fragments has also been one of the basic criteria in the reconstruction of Barcelona, with all its political significance and with the creation of the corresponding decentralized administrative instruments.*"[10] This concept of development of Barcelona has a lot in common with Leon Krier's "The City of Quarters", the idea of quarters explicitly coincides with neighborhoods as autonomous systems in Bohigas' words.

Figure 5. Structure of open space in Vila de Gràcia [11]

As for Barcelonese experience, the concept of local centrality could be exemplified by Vila de Gràcia, one of the districts of Barcelona. The layout of Vila de Gràcia has explicit structure and hierarchy of well-defined spaces despite plentiful distortions and irregularities. Every square plays the role of a public living room constituting a relative center for each neighbourhood. The inhabitants of Vila de Gràcia have equal access to public space which becomes in some way an inseparable part of every home, an outdoor public room.

8, 9. Andreas Papadakis. *Leon Krier. Houses, Palaces, Cities*. London, Great Britain: Architectural Design, AD Editions, 1984. 127 pages. ISBN 0-85670-844-5(UK)

10. Oriol Bohigas. *RIBA Prize 1999 Acceptance speech.* RIBA, London, June 17th 1999. Available at: https://cercle.upc.edu/review/003.-march-2010

11. Caminar BCN. Tarragona comparación urbana con el barrio de Gràcia. Available at: http://caminarbcn11-12t.blogspot.com.es/2011/12/tarragonacomparacion-urbana-con-el.html

In the book "The 10 lessons of Barcelona" Manuel de Solá-Morales described its structure as follows:
"*The plots were determined within the orthogonal array of streets laid out on each of the estates, always with the presence of this square as the defining centre of the grid of houses. All of the streets on the estate ended in the square; every house looked out onto a square or onto a street that led to one: Placa del Sol, Plaça de la Constitució, Plaça de Rius i Taulet, Plaça del Diamant, Plaça Rovira i Trias and the rest*."[12]

The concept of evenly distributed public places demonstrated by Gracia retains its validity in a contemporary city. Among latest examples could be named a system of open spaces created in Eixample district of Barcelona. Being densely built Eixample had insufficient amount of green zones, parks and playgrounds for children. In order to solve this problem it was decided to use courtyards inside blocks that were intended to be green zones but then were gradually built-up. Implementation of the plan was initiated in 1985 with clearance of the courtyard inside one of blocks and creation there a green space accessible for public. By now after the long process of bit by bit clearance Eixample has a network of 39 such public spaces and 14 more are underway. Finally realization of the plan will allow citizens to find public space within 200 meter in any point of Eixample.

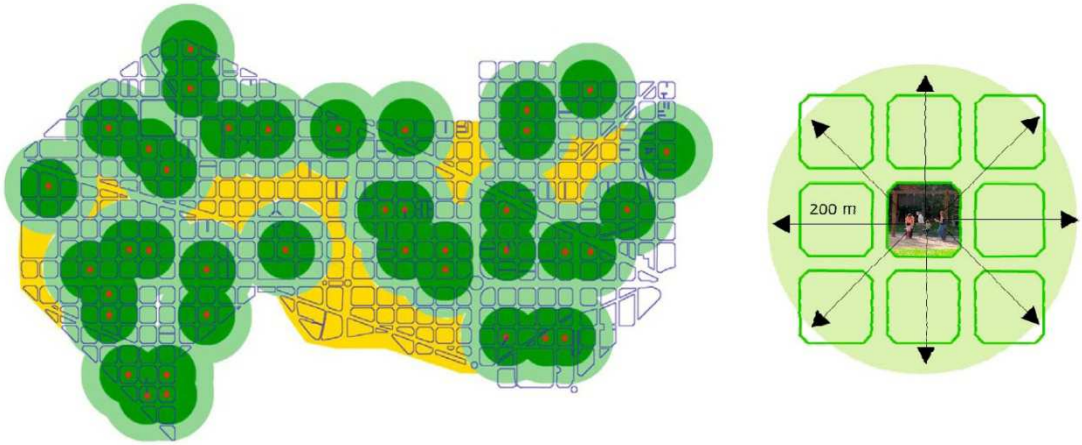


Figure 6. Plan of recuperation of courtyards in Eixample, Barcelona. 2008 [13]

12. Manuel de Solà-Morales. *Ten Lessons on Barcelona* (English and Spanish Edition). Barcelona, Spain: Col·Legi d'Arquitectes de Catalunya, 2008. 584 pages. ISBN-10: 849684224X
13. Ajuntament de Barcelona website. Pla de recuperació dels interiors d'illa de l'Eixample. Available at: http://w110.bcn.cat/fitxers/premsa/080818dpilleseixample.372.pdf

I.1.2. The network of local centers and the image of the city

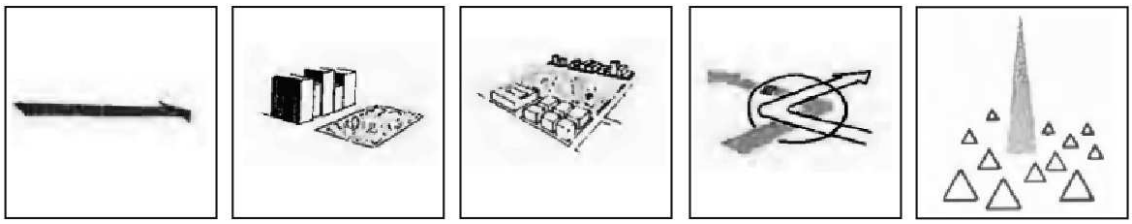


Figure 7. The elements of city image according to K. Lynch[14]

Creation of local centers can profoundly change the perception and overall image of a given city. In order to explain the perception of these elements and their role we use the theoretical findings of American theoretician and urban planner Kevin Lynch that he outlined in his widely known book "The Image of the City" . In this work he tried to investigate the way in which a city is perceived by its citizens and justified the value of surroundings capable of generating a strong image. Advocating vivid environments Lynch wrote that they deepen urban experience, facilitate orientation and thus give sense of emotional security. Since prehistoric times it has been crucial for people to construct clear mental image of their surroundings.

Carrying out the research of perception and orientation by the example of different American cities Kevin Lynch defined prime elements constituting an image of every urban environment. These elements are paths, edges, districts, nodes and landmarks. Lynch described nodes as follows: "*Nodes are points, the strategic spots in a city into which an observer can enter, and which are intensive foci to and from which he is traveling. They may be primary junctions, places of a break in transportation, a crossing or convergence of paths, moments of shift from one structure to another*"[15]. Due to the role of local centers and their location in places where paths of many citizens converge, they are presented as nodes in Lynch's classification. Furthermore Lynch pointed out specific prominence of junctions for observers. Due to the fact that decision about further direction has to be made at junctions, people, whether drivers or pedestrians perceive such spaces with increased attention. Thus elements located near junctions acquire distinctive importance because of their position. Furthermore not only a position but also a function associated with local centers, their role of places of common activities, of meetings and chance encounters is able to change the perception of urban environment in general. Therefore specific location, distinctive architectural qualities and important civic function are capable to make local centers play a role of mnemonic devices helping to grasp complicated and often chaotic urban environment. Also whereas at small scale local centers play a role of nodes, simultaneously they are landmarks, referential points on scale of a city.

14,15. Kevin Lynch. *The Image of the City*. Publication of the Joint Center for Urban Studies. Massachusetts and London, England: The M.I.T. Press, 1960. 194 pages. ISBN 0 262 62001

I.2 System of local centers for Santa Coloma

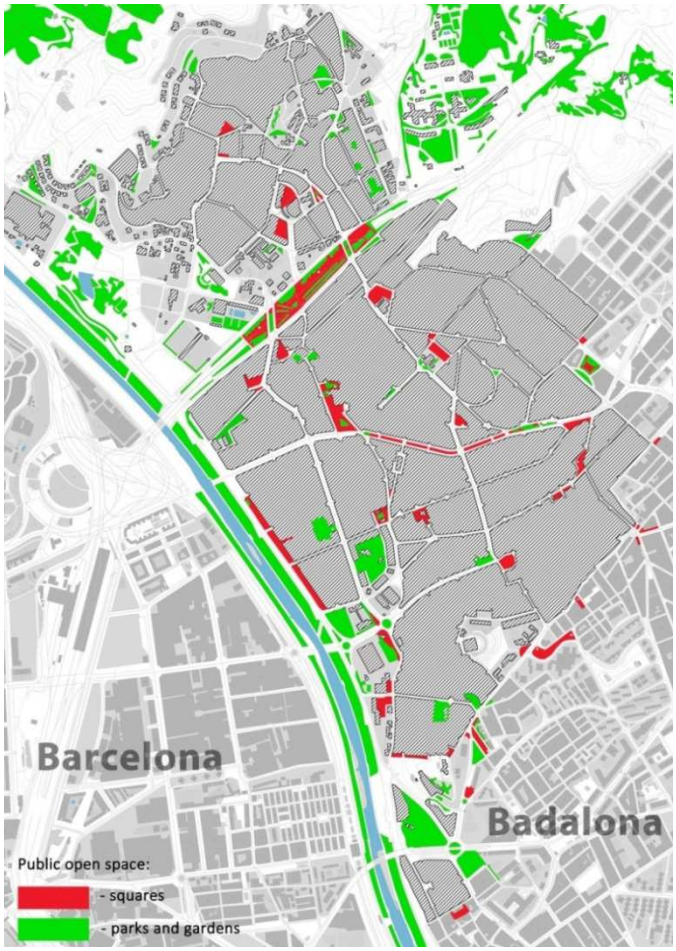
I.2.1.Analysis of Santa Coloma urban form

Figure 8. Santa Coloma patchwork, drawn by the author

In order to apply the concept of local centrality to Santa Coloma firstly we have to investigate its urban fabric and particularities of its creation.

Located in the northeast side of Barcelona Metropolitan area, the city of Santa Coloma de Gramenet has been existing for a long period of time as a small rural town near a church, with farmhouses and flour mills scattered around. During the XX century as a result of the rise of economical activity in the Metropolitan Area Santa Coloma experienced exceeding growth of population which increased almost hundred-folds from 1510 citizens in 1900 to 140.588 in 1981[16]. The rise of population was happening along with intensive process of urbanization of formerly rural land. The plots of land occupied by agricultural estates were being urbanized, the rural roads became streets of the city. This process run without general planning, without a layout of integral development. The rural plots were turned into urban areas independently of one another, which resulted in present urban form of Santa Coloma. The city consists of a number of patches of urban fabric, it is a conglomeration of different grids and patterns put together in arbitrary order. Thus in some areas the presence of orthogonal grid is clearly traceable while some others haven't any logical structure. Furthermore, rapid and discontinuous urbanization generated monotonous and inexpressive townscape. This condition comes as no surprise considering that usually architecturally intense urban environments come as a result of slow incremental growth.

16. Wikipedia. Santa Coloma de Gramenet. Available at: http://ca.wikipedia.org/wiki/Santa_Coloma_de_Gramenet



Since Santa Coloma was constructed without collective considerations, primary attention was paid to erection of particular houses, therefore public space here is distributed unevenly, it occupies plots of land left uncovered after urbanization or territories improper for construction because of topographical characteristics. Furthermore due to occasional emergence of public space the vast majority of squares here are unplanned, they present merely free land adapted for public use.

Figure 9. Distribution of public space in Santa Coloma, drawn by the author

Figure 10. Squares of Santa Coloma, drawn by the author

I.1.2.2. Identification of areas for local centers, points of discontinuity

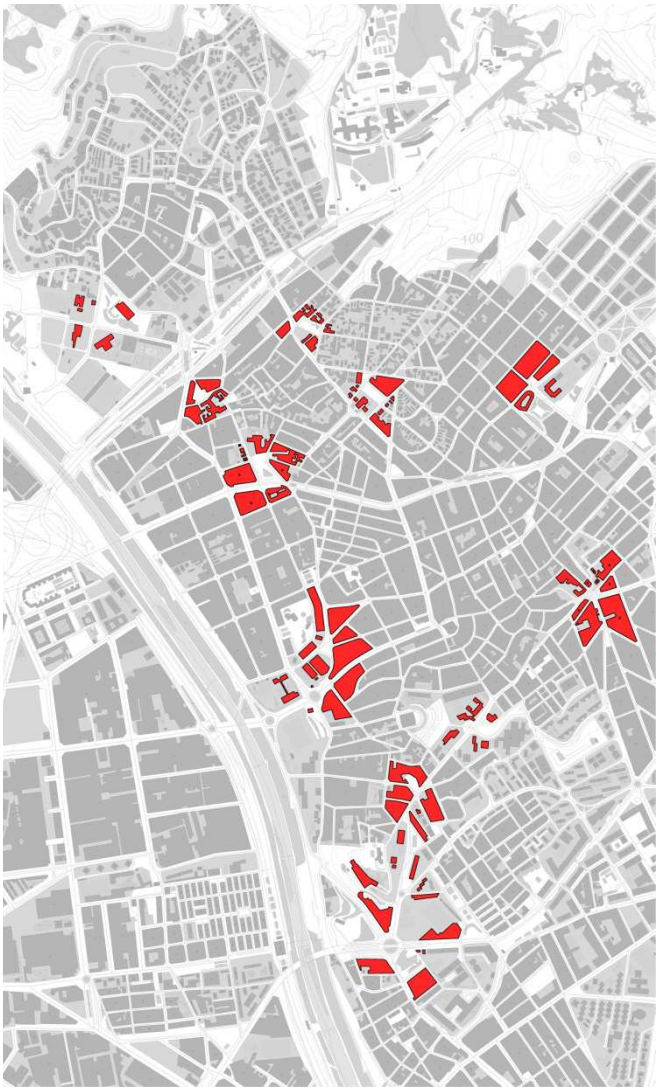


Figure 11. Points of discontinuity in Santa Coloma urban fabric, drawn by the author

Investigating the urban shape of Santa Coloma we noticed that tension between different patches of urban fabric produces conflicting areas, *points of discontinuity*. They are areas where ones patches collide with the others, where urban fabric loses coherence and unity. Relationships between buildings ceases to be immediate, they exist as a group of independent objects aloof to each other. This in turn generates unplanned open space which is perceived as a residual territory left undeveloped after the process of urbanization. Some of those points are empty zones with complicated topographical conditions that were surrounded by urban fabric and thus included to it. For example this situation could be seen in the area of the Molinet park in the very south part of Santa Coloma where the land is difficult to be urbanized because of its topographical characteristics. The description of this kind of free space was given by E. Bru in the book "Three on the site": "*Free space in today's city is generally residual space. It is not free space in the strict sense of the term, but rather space among things. It is the result of the existence of unresolved tensions that have made its occupation impossible.*"[17] By now some of these points are articulated and integrated into surrounding urban fabric by means of creating small parks and urban spaces whereas others still lack proper treatment. These underdeveloped semi-urbanized areas could be primary points to intervene in Santa Coloma urban tissue.

17. Eduard Bru Bistuer. *Three on the site.* Barcelona, Spain: ACTAR, 1997. 66 pages. ISBN 84-89698-16-3

I.2.2. Santa Coloma as a city of small communities

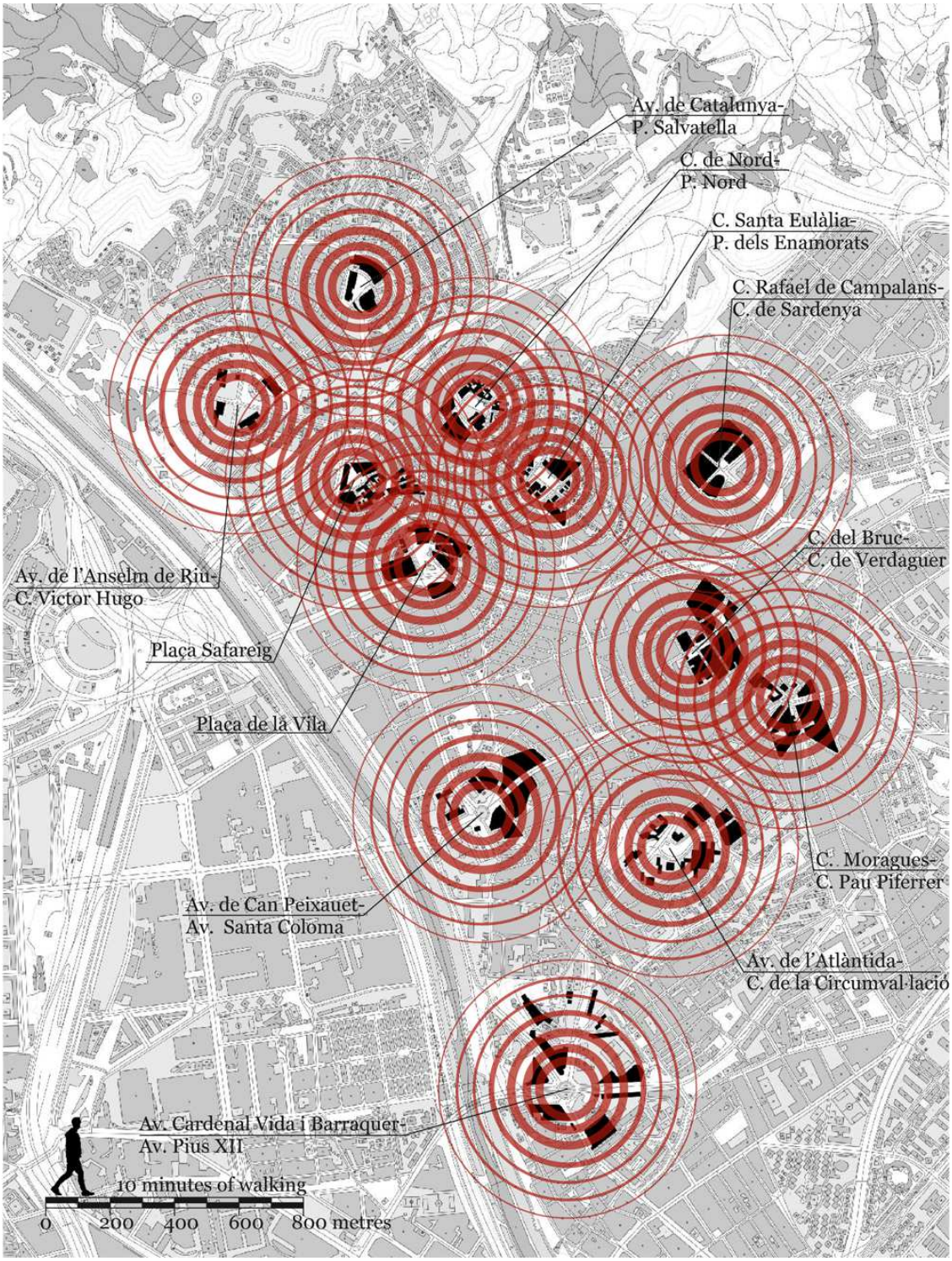


Figure 12. Possible system of local centers in Santa Coloma, drawn by the author

In order to apply the concept of city consisting of small communities we propose to create a system of evenly distributed local centers. The choice of areas for possible intervention was made according to particularities of Santa Coloma urban fabric. Distribution of local centers in aforementioned points of

discontinuity will allow to restore continuity of urban fabric and thus eliminate conflicting zones. All the points that could constitute a possible network of local centers could be divided in three categories.

Figure 13. Plaça de la Vila, photo by the author

The first category presents well-functioning public spaces. One of such examples is Plaça de la Vila located in front of the city hall of Santa Coloma. Open space here is well-articulated, equipped with furnishing and canopies, has adequate amount of greenery. Moreover this square is supported by different public facilities located around, such as cafes with outdoor tables. This function attracts citizens and generates distinctively urban atmosphere. Being functioning local centers such areas need only minor intervention and correction. The second category includes locations which are characterized by public spaces that are not supported by any accompanying facilities. These spaces are empty and don't imply any functions and uses, they are predominantly used as transit zones. **Fig.14** demonstrates one of such areas.

Figure 14. C. Moragues - C. Pau Piferrer, photo by the author

The last group contains non-urbanized zones that during the process of urban expansion were included into urban fabric. An example of this kind of territory is the area depicted on **Fig.15**. This area doesn't have any treatment being merely a piece of undeveloped landscape.

Figure 15. C. Cardenal Vida i Barraquer - Av. Pius XII [18]

18. Google Maps. Available at: https://www.google.com/maps/

Each of the points constituting the net is intended to consolidate community within radius of 400 meters. The dimension of a quarter is chosen in accordance with the comfortable distance of walking. However considering that complicated topography of Santa Coloma can hinder walking, in some areas intervals between centers are diminished. Taking in account that we propose to scatter throughout Santa Coloma 12 local centers for the population of approximately 120.000 residents [19], each community will contain up to 10.000 people. Creation of small tight-knit communities is especially important for low-income areas with relatively high crime rate such as Santa Coloma. Small community helps to develop neighborliness which in turn increases social control. Also small communities would help external immigrants who constitute essential part of Santa Coloma population to be integrated into local society.

Figure 16. Musical performance, Santa Coloma, photo by the author

Figure 17. Spontaneous market, Santa Coloma, photo by the author

Due to the density of mutually supporting functions concentrated there, local centers will become social magnets, places of social interaction. Moreover they can become appropriate spaces for the activities that already take place in Santa Coloma. Among such activities could be named spontaneous markets that emerge on busy junctions on weekends. Also local centers could serve as a space for different groups of people amalgamated by common interests such as sportsmen, dancers, musicians etc. Considering small size of the city of Santa Coloma the fragmentation of society is more visible here than in metropolises, thus the multiplicity of centers could reflect the richness and diversity of local society, to manifest grains of different sub-cultures.

And finally the insertion of new centers is capable to change the whole image of Santa Coloma. Due to their location around busy junctions these areas will acquire the role of "nodes" in K. Lynch's classification and thus heavily influence perception of territory. New points of distinctive urbanity will facilitate navigation in this chaotically constructed urban environment lacking referential objects, whether natural or artificial.

19. Institut d'Estadística de Catalunya. Available at: http://www.idescat.cat/emex/?id=082457&lang=es

Chapter II:

LOCAL CENTER AS URBAN SPACE

II.1. The elements of urban space

Since the core element of every local center is a public space it is necessary to formulate certain approach to its creation. Public space organizes the structure of a city, reflects the values of citizens and serves as a scenery of collective life. Describing attitude towards the role of public space in Barcelona Oriol Bohigas wrote: "*If we start out from the idea that the city is the physical domain for the modern development of the commonalty, we have to accept that in physical terms the city is the conjunction of its public spaces. The public space is the city: here we have one of the basic principles of the urban theory of Barcelona's three Socialist mayors. In order for the urban space to fulfill its allotted role it has to resolve two questions: identity and legibility.*"[20]

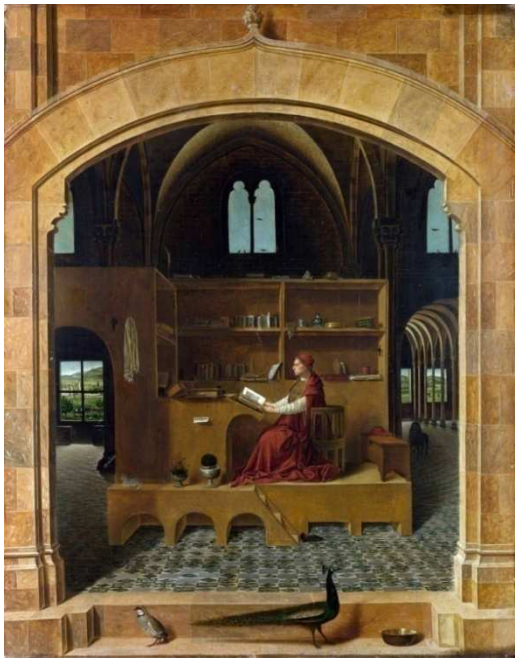


Figure 18. Antonello di Messina. St. Jerome in His Study. 1475. [21]

In order to elaborate the strategy of transformation of urban space we have to investigate elements that constitute it and the qualities of those elements. English architect and urban planner Gordon Cullen expressed the idea that outdoor space has to be approached in the same way as interior space. In order to explain his vision he drew attention to exterior quality of interior space and interior features of outdoor space. On the picture by Antonello di Messina he noticed that the interior of depicted building has qualities of a landscape: the paved floor has its own topography, it is divided into two levels, upper of which presents a study room. The raw of columns on the right forms an avenue leading to hills. On the other hand interiorness of the space depicted by Cullen (**Fig. 19**) is distinctly visible. People having dinner are sitting outdoors in the same way as they could sit in a living room around the fireplace. Considering that these two types of space receive completely different treatment Cullen claimed that outdoor space has to be humanized in the same way as a space inside buildings.

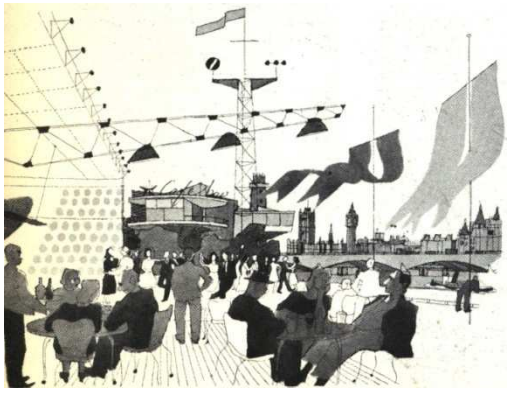


Figure 19. Public place. Drawing by Gordon Cullen.[22]

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20. Oriol Bohigas. *RIBA Prize 1999 Acceptance speech.* RIBA, London, June 17th 1999. Available at: https://cercle.upc.edu/review/003.-march-2010
21. Wikiart. Available at: http://www.wikiart.org/en/antonello-da-messina/st-jerome-in-his-study
22. Gordon Cullen. *Townscape.* London: The Architectural Press, 1961. 320 pages

In accordance with Cullen's line of thought, we examine open space as a type of a room. Therefore similarly to a room, urban space has the same constituent elements: spatial form, defining surfaces and furnishing. In this chapter we try to define main characteristics of these elements in order to elaborate a pattern of urban space for Santa Coloma. This pattern would serve as a guideline for creation of an open space which could be utilized in the process of future urban transformation of Santa Coloma.

II.1.1. Spatial form

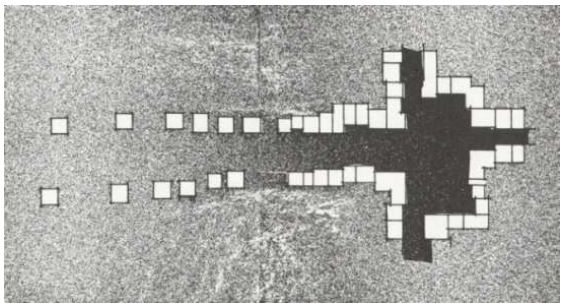

Figure 20. Linear space passing into cluster space.[23]

We start with spatial form as a basic characteristic of urban space which strongly affects its perception. Creating urban space it is important to consider that its geometric characteristics have certain expressive qualities defining experience of urban ambiance. Investigating open spaces produced by different arrangement of buildings R. Curran pointed out that spatial patterns transmit certain meaning. He distinguished two main categories of space in public domain: linear pattern and cluster pattern. The first type is created by linear organization of volumes and implies movement presenting transit zone, whereas the second is characterized by enclosure and is perceived as a place to stay. The ability to recognize spatial patterns has existed since prehistoric times when it was crucial for survival, thus human beings perceived an enclosed space as the form of shelter, a space which could be easily defended. Therefore it is associated with safety and protection.

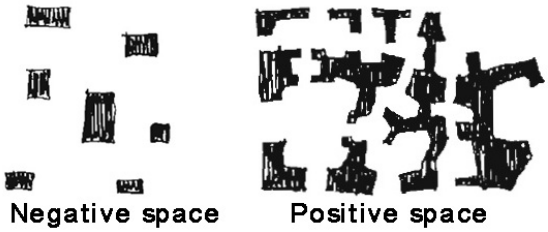

Figure 21. Two categories of outdoor space according to C. Alexander.[24]

Similar idea was expressed by Christopher Alexander in the book "A Pattern Language". Examining open space Alexander defined two kinds of space, negative and positive. He wrote: "*Outdoor space is negative when it is shapeless, the residue left behind when buildings - which are generally viewed as positive - are placed on the land. An outdoor space is positive when it has a distinct and definite shape, as definite as the shape of a room, and when its shape is as important as the shapes of the buildings which surround it.*"[25]

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23. Raymond J. Curran. Architecture and the Urban Experience. New York: Van Nostrand Reinhold Company Inc., 1983. 221 pages. ISBN 0-442-21208-913.

24, 25. Christopher Alexander. A Pattern Language: towns, buildings, construction. New York: Oxford University Press, 1977. 1171 pages. ISB-13 978-0-19-501919-3

Alexander writes that due to the sense of comfort and security positive spaces are perceived as places to linger while negative spaces are used as transit zones. In fact, even simplest kind of enclosure divides space into "here" and "there", gives a sense of place, whereas one can't get in negative space, it's only possible to traverse it.

These ideas are supported by theoretical investigations made by Austrian architect and city planner Camillo Sitte. Exploring the underlying conditions of expressiveness of Medieval and Renaissance squares in different European countries he came to conclusion that all of them have closed boundary constituted by facades of adjoining buildings. Masters of old times achieved this effect by different methods. First of all the number of streets coming into squares was reduced in order to maintain continuity of a limit. In many cases streets were aligned to be at angle to main focal points, thus an observer is not able to see several streets from one point. Also arches and colonnades were commonly used to underline unity and minimize the effect of gaps in continuous boundary.

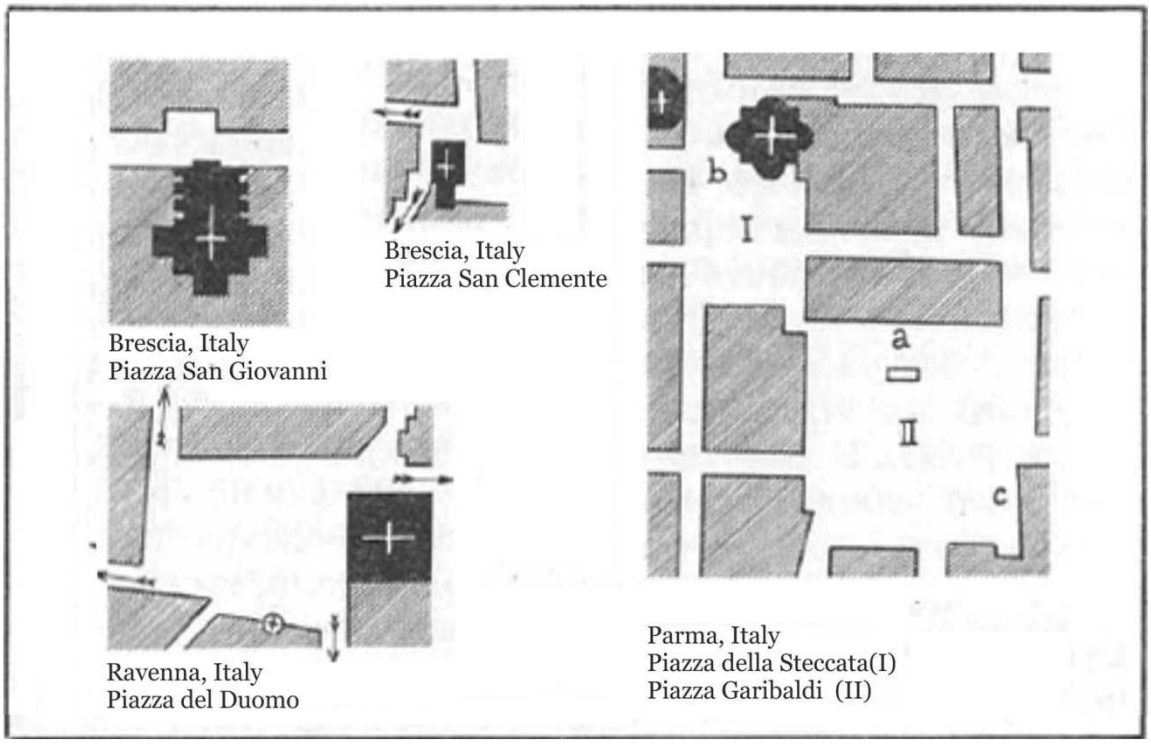

Figure 22. Isolation of squares (the squares are drawn in the same scale). [26]

Also it's noticeable that creation of enclosure was easier before the mass development of transport, in the past streets were suited for pedestrian use and thus were narrow, therefore their impact on the form of a square was insignificant.

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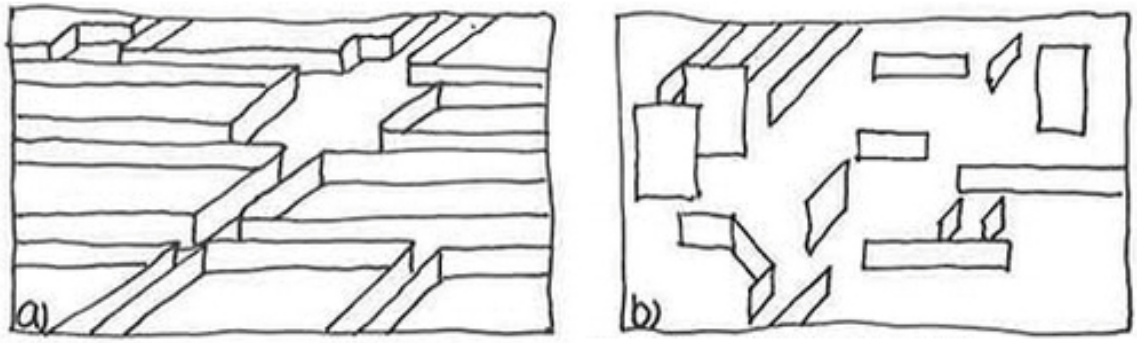
26. Camillo Sitte. *City planning according to artistic principles* .New York: Random House, 1964. First published in 1889. 205 pages. Columbia University studies in art history and archaeology. ASIN: B0007HQC3A

Another theoretician advocating planned, clearly delimited urban space was Luxembourgian Rob Krier. Comparing modern and traditional cities he noticed that quality of open public space significantly decreased over XX century as a result of modern city planning principles. Krier wrote that during this time cities lost sense of whole and cohesive structure, became nothing more than a group of independent objects. Relationships between solid and void, between private and collective that had existed since the beginning of architectural history were distorted. To improve this situation he suggested to rethink urban space and to reevaluate validity of traditional forms. Thus basic urban elements, streets and squares, should be given back their initial meaning and organization. Similarly to Gordon Cullen he drew parallels between open space and interior space, thus Krier insisted that a street and a square are counterparts of corridor and courtyard in public domain. Moreover he wrote that traditional forms of these elements have influence of behavioral patterns of citizens because they are supportive to a number of typical functions.



a) Traditional spatial arrangement of cities

If we look at the spatial continuum of a cohesive urban structure from a distance and in somewhat simplified terms, it can be compared to the barriers which channel pedestrian movement. If there is a gap in the barrier, we will have to cope with shortcomings in the system of orientation.

b) The modern city

Extending this metaphor to our present-day situation, it could be said that from a spatial point of view our towns are composed of forlorn and isolated sections of “barrier”, battered on all sides by every conceivable stream of activity and with no margin left for meaningful activity for orientation. This contradicts the urban architecture as defined by Sitte and is nothing more than a jumble of buildings.

Figure 23. Traditional and modern arrangement of space[27]

Trying to define methodology to improve deteriorated urban space of contemporary cities Krier proposed to shift main focus on open space and evaluate buildings depending on their impact on the whole structure of city. Hence every particular building should be subordinated to the logic of totality. In order to manipulate open space Krier suggested to use the typological approach earlier described by eminent Italian theoretician and architect Aldo Rossi.

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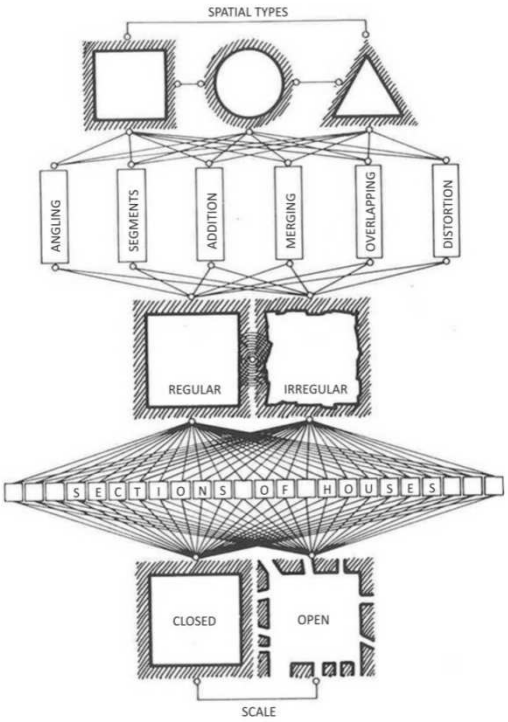
27. Rob Krier. *Urban Space*. London: Academy Editions, 1979. First published in Germany in 1975. 174 pages. ISBN 0 85670 576 4.

On the pages of his most widely reputed treatise "The Architecture of the City" Rossi wrote that "*the whole is more important than the single parts, and that only the urban artifact in its totality, from street system and urban topography down to the things that can be perceived in strolling up and down a street, constitutes this totality./.../Naturally we must examine this total architecture in terms of its parts. We must begin with a question that opens the way to the problem of classification --- that of typology of buildings and their relationship to the city.*"[28] Hence in order to understand a city in its totality Rossi introduces the concept of type as the basis of architecture. He describes type as a certain rule or logical principle that precedes and constitutes form, whereas "*no type can be identified with only one form , even if all architectural forms are reducible to types.*"[29] Describing types Rossi wrote that a lot of schemes emerged in ancient time and being based on necessity are still presented in contemporary design. For example a loggia or a corridor, these elements retain their essence through the time changing within limits of type while their preceding principle is unaltered. Following this train of thoughts typology presents as the investigation of basic elements that cannot be further reduced. Since priority should be given to typological questions, Rossi claims that the problem of typology is to define different modulating factors and understand their influence. Hence there is no need in invention of new types, because new forms could be created within limits of a certain type, thus corridor is always a corridor however it can have a plenty of different interpretations.



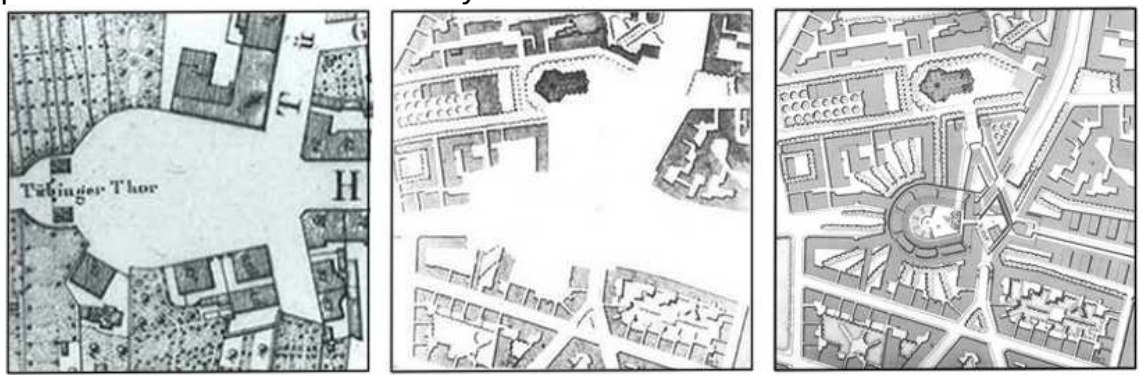
Hence it can be said that Rob Krier applied Rossi's typological theory particularly to urban space. Investigating a variety of examples from the past Krier groped urban space in three main types according to their ground plan patterns: a square, a circle and a triangle. These spatial types can change under the influence of different modulation factors, such as angling, addition, merging, segmentation, overlapping and distortion. Simultaneously he defined the qualities which are determined by characteristics of surrounding buildings, thus urban place can be regular or irregular, open or closed.

Figure 24. Spatial types and their modulations[30]

28,29. Aldo Rossi. *The Architecture of the City*. Cambridge, Massachussets and London, England: The MIT Press, 1998. 201 pages. ISBN-13: 978-0-262-18101-3

30. Rob Krier. *Urban Space*. London: Academy Editions, 1979. First published in Germany in 1975. 174 pages. ISBN 0 85670 576 4

According to Krier, having at disposal this great variety of spatial forms excludes all necessity of invention and the only task would be to use proper spatial form in right situation. Defending flexibility of spatial forms Krier writes that spatial types are not bounded up with particular architectural styles or historical epochs. The same spatial form could be built with any possible architecture retaining its spatial quality. Thus a solution with an empirically proved relevance could be utilized in a variety of similar cases. This idea was exemplified in a proposal for renovation of the Osterreichische Platz in Stuttgart. Here Krier tried to improve deteriorated urban space taking as a reference the historical layout designed by Nicolaus Friedrich von Thouret which existed on the same place in the middle of XIX century.



N. F. von Thouret plan, 1855 Existing situation in 1979 Proposal

Figure 25. Rob Krier. The transformation of Osterreichische Platz, Stuttgart[31]

Figure 26. Rob Krier, Leon Krier. Plan of reconstruction of West Berlin. 1976-1977[32]

The following project, the proposal of reconstruction for West Berlin made by the Krier in 1976-1977 explicitly shows the essence of their approach to city planning. Working on this project the authors tried to solve the problem of deterioration of urban space. In order to do that they imposed unifying order on urban fabric creating the coherent, well-structured whole. Streets are recreated in form of corridors and squares in form of courtyards. The system of streets and squares is clearly legible which facilitates orientation and movement. Special treatment is given to squares, each of them is clearly articulated and has a distinctive shape.

31,32. Rob Krier. *Town Spaces*. Switzerland, Basel: Birkhauser - Publishers for Architecture, 2003. 283 pages. ISBN 3-7643-6942-6

In order to demonstrate the flexibility of spatial types we bring several examples when historical forms of open space were created by contemporary architecture. The following project is the train station for the city of Leuven designed by Manuel de Solà-Morales.

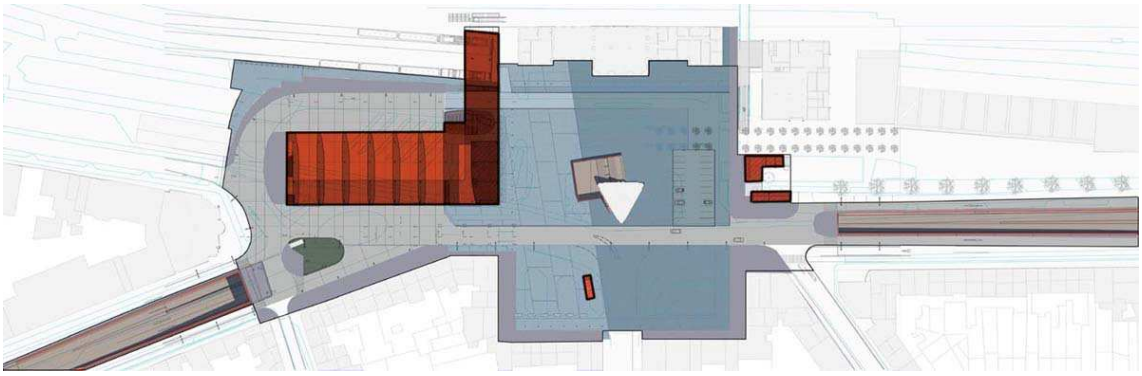


Figure 27. Manuel de Solà-Morales. Stationplein, Leuven. 1996-2002 [33]

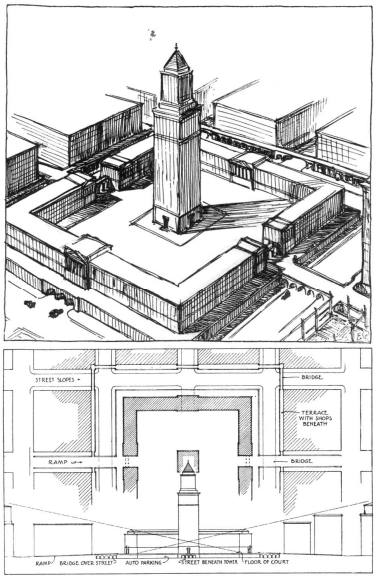


Figure 28. Civic center group from "American Vitruvius"[34]

Designing the building of train station in the city of Leuven Manuel de Solà-Morales decided to complete unfinished square by insertion of new buildings and support the order dictated by existing surrounding. Placing a train station along the right side of the square and a restaurant pavilion on the opposite side he articulated the open space. Furthermore in order to solve the conflicts generated by density of traffic, the road crossing the square was put underground giving uninterrupted space for pedestrians. These measures allowed to create representative open space serving as an anteroom for the city of Leuven. The interesting feature of this project is that the author created an unquestionably contemporary building and at the same time supported classical order of surroundings generating classical open space. Also it's notable that the resulting open space has a lot in common with the project of a civic center made by W. Hagemann where he utilized the same spatial form creating a closed rectangular square separated from intense automobile movement by raising level of the square above the ground.

Figure 29. Manuel de Solà-Morales. Stationplein, Leuven. 1996-2002 [35]

33. Available at: http://arquitectes.coac.net/sola-morales/leuven2.ht
34. Werner Hagemann, Elbert Peets, Alan J. Plattus. *The American Vitruvius: An Architects' Handbook of Civic Art.* Princeton Architectural Press, 1988. 324 pages. ISBN-10: 091041335
35. Manuel de Solà-Morales. *Ten Lessons on Barcelona* . Barcelona, Spain: Col-Legi D'Arquitectes de Catalunya, 2008. 584 pages. ISBN-10: 849684224X

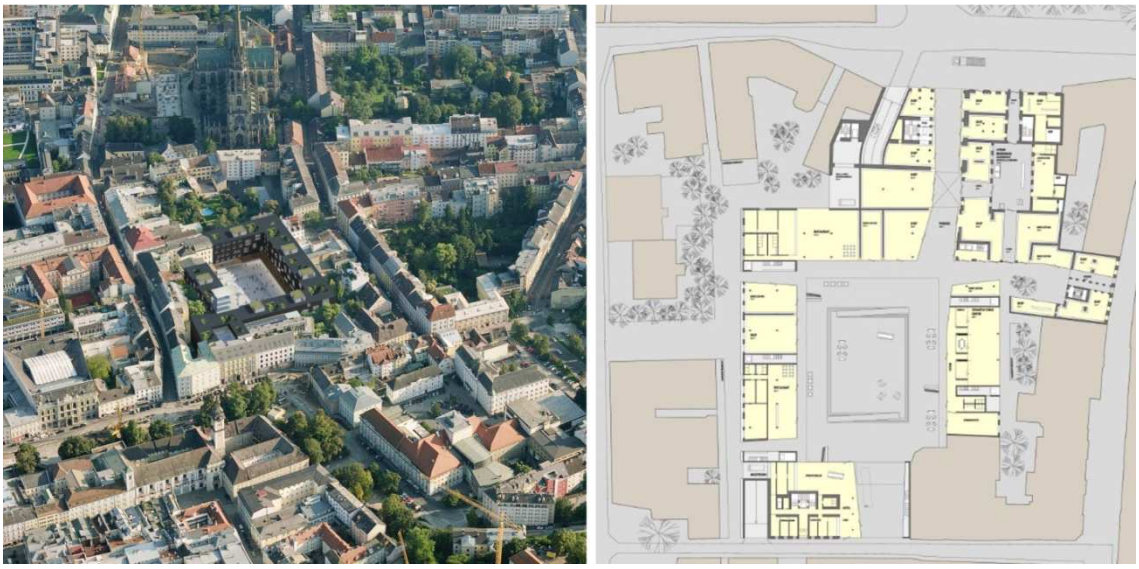


Figure 30. Atelier Thomas Pucher. Wimmer Medien Business Center and Urban Development, Linz, Austria. 2011 [36]

This project of business centre presents an attempt to create an open space with the qualities of Italian piazza by inserting a number of new buildings into existing urban fabric. The open space here is clearly defined, has adequate size and is devoid of any transport movement being accessible only for pedestrians. The new buildings contain a number of facilities, commercial spaces and offices. Extended program of public functions attracts visitors to the open space which thus becomes a container of social life.

Figure 31. Plaça Reial, Barcelona [37]

Despite contemporary architecture of the buildings, resulting open space is distinctively classical. In some sense it's a contemporary embodiment of classical pattern utilized by pre-Modern architects in numerous cases. This spatial type could be exemplified by Plaça Reial in Barcelona. Both squares have regular rectangular shape constituted by a sequence of continuous facades.

36. Archdaily. Available at: http://www.archdaily.com/198337/wimmer-medien-business-center-and-urban-development-atelier-thomas-pucher/
37. Barcelona Yellow. Available at: http://www.barcelonayellow.com/bcn-photos/166-barcelona-aerial-pictures?Itemid=1

Along with continuous limits and the geometry of plan one of the basic characteristics of urban space is a size. The importance of right size was pointed out by many urban planners and theoreticians. Camillo Site wrote that the dimensions of a square have great impact on perception of buildings looking onto a square. Thus he insisted that in a small square a building appears bigger than if it was standing in the center of a spacious square. Therefore squares in front of many old churches were made small intentionally. This feature allowed to limit the area from where a church could be observed, so a building is perceived bigger.

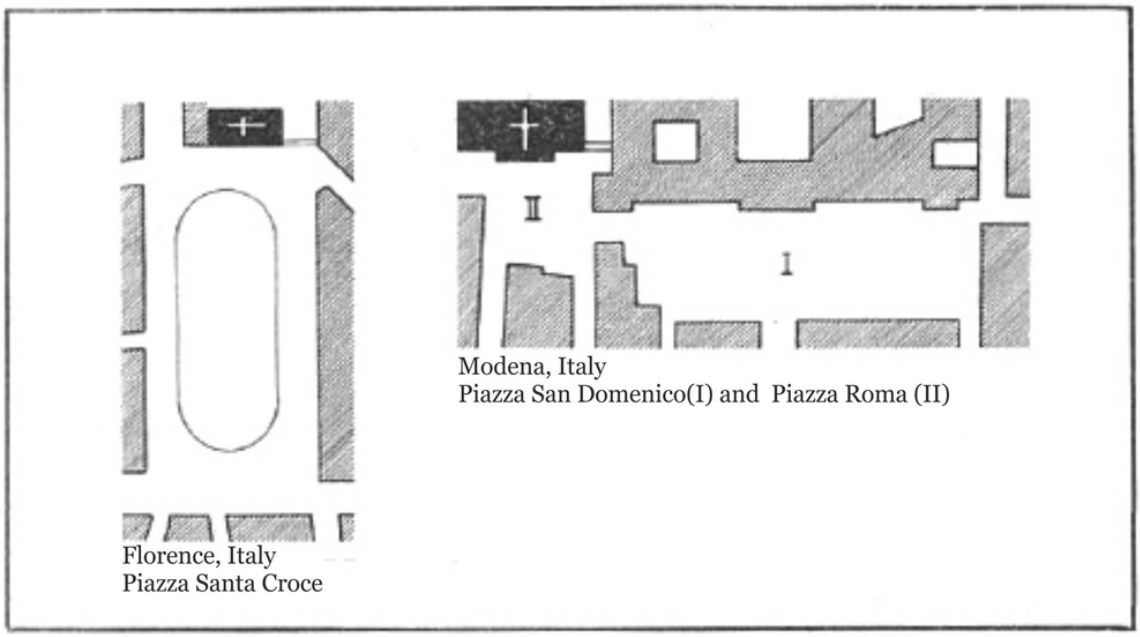


Figure 32. Deep and wide squares (the squares are drawn in the same scale) [38]

Furthermore Sitte wrote about the importance of immediate relationships between proportions of a square and proportions of a dominating building. Depending on characteristics of a building he distinguished two types of square, deep and wide. So when a dominating building is a church having substantial altitude, a square in front of it has to be deep, and in case of a city hall which is comparably low but has significant length of facades a square has to be wide.

Also Sitte claimed that squares that have excessive size have negative impact on the perception of space. Because of inhuman dimensions vast squares can cause a feeling of anxiety and discomfort in visitors. Moreover vast open spaces distort the perception of scale of adjoining buildings without giving any expressive quality. In order to solve this problem Sitte suggested to use as a maximum dimension for a square double height of a dominating building and as a minimum limit a half of its height.

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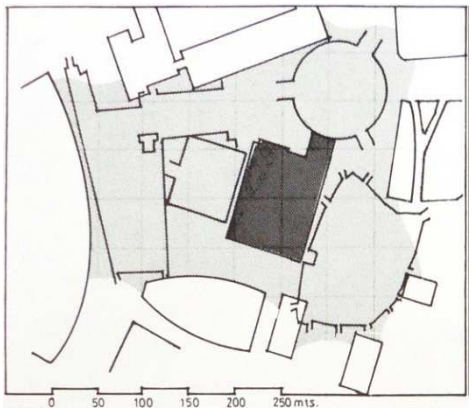
38. Camillo Sitte. *City planning according to artistic principles* .New York: Random House, 1964. First published in 1889. 205 pages, pp. 75-84. Columbia University studies in art history and archaeology. ASIN: B0007HQC3A

Figure 33. Small public square[39]

Similarly to Sitte large squares that look attractive in the project but in reality are unwelcoming and underutilized were criticized by Christopher Alexander. As a limit of width he chose 70 feet (21,336m), the maximum distance at which people can communicate and recognize faces, while the length could be more continuous. Also Alexander wrote that when pedestrian density is less than 300 square feet (27.87m2) per person a place seems deserted, so an average number of visitors can play the role of a size regulator.



The same idea about size was expressed by R. Curran in the book "Architecture and the Urban Experience". Analyzing the square of Govenrment Center in Boston he noted that the sense of insecurity emerging in this place is the result of vast dimensions of this place. The dimensions of Government Center Square are so large that it can contain completely St. Mark's Square, Barcelona's Placa Reial, Bath's Royal Circus and Sienna's Piazza San Marco at once.

Figure 34. Government Center Square in Boston, Massachusetts overlapped by St. Mark's Square, Plaça Reial, Royal Circus and Piazza San Marco (Boston City Hall is depicted in the center) [40]

Figure 35. Government Center, Boston, Massachusetts [41]

39. Christopher Alexander. A Pattern Language: towns, buildings, construction. New York: Oxford University Press, 1977. 1171 pages. ISB-13 978-0-19--501919-3
40. Raymond J. Curran. Architecture and the Urban Experience. New York: Van Nostrand Reinhold Company Inc., 1983. 221 pages. ISBN 0-442-21208-913
41. Travelgoat. Available at: http://www.travelgoat.com/boston/government-center

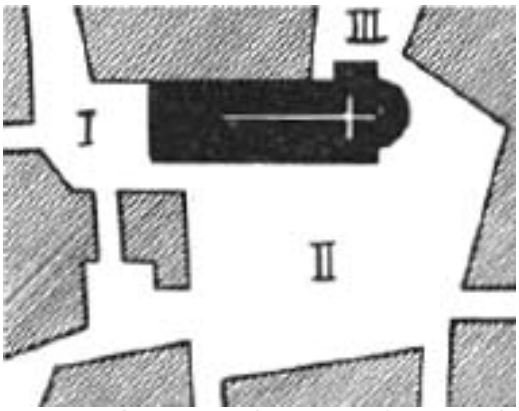


Figure 36. The group of squares in Modena, Italy [42]

Camillo Sitte cited instances of a method to split oversized squares into a sequence of relatively smaller spaces. The way that was widely used in the past is insertion of a building into the center of a square. Thus, for example in Italian city of Modena the church divides open space into a group of smaller squares located around the church. An interesting feature here is that each facade of the church has its own square, thus the expressiveness of the church is fully used.

In order to demonstrate the use of this method in contemporary architecture we can cite the example of NUKII library in Ljubljana designed in the year of 2012. The project of NUKII library by NL Architects has a lot in common with the case of Modena. The cruciform volume of the building generates four small squares in the same way as it happened in medieval cities when a church located on a square divided this square in a series of subspaces. Simultaneously the library support the order established by surrounding urban fabric.

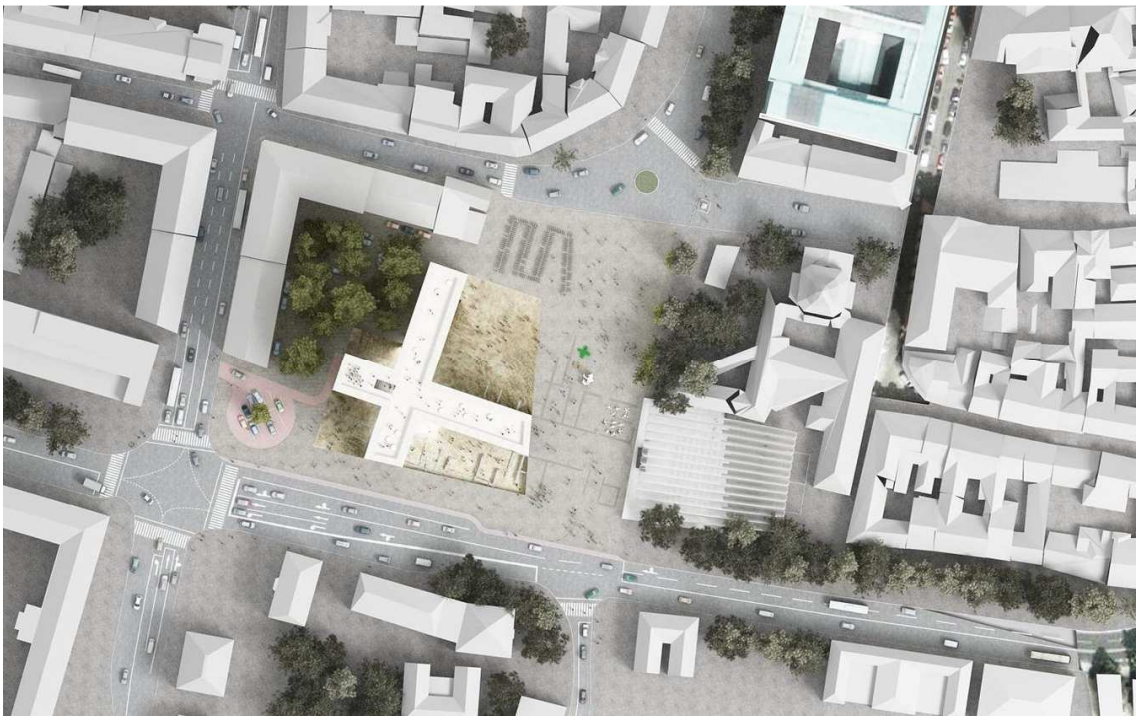


Figure 37. NL Architects. “NUKII library”, Ljubljana, Slovenia. 2012 [43]

42. Camillo Sitte. *City planning according to artistic principles* .New York: Random House, 1964. First published in 1889. 205 pages. Columbia University studies in art history and archaeology. ASIN: B0007HQC3A

43. Designboom. Available at: http://www.designboom.com/architecture/nl-architects-nukii-library-ljubljana/

II.1.2. Defining surfaces

Organization of surfaces surrounding urban space has substantial influence on its qualities and perception. Writing about groups of squares concentrated around buildings Camillo Sitte noticed that such grouping was also used to reveal expressive qualities of this building when every subspace serves as a place to observe one facade.

Considering the importance of facades Rob Krier included treatment of facades to the list of factors modulating urban space. He distinguished two basic characteristics defining relationships between open space and built space: building profile and organization of openings. In the table below he depicted a variety of possible building profiles and different variants of fenestration. The treatment of facades presents a great source of information, it reveals uses and functions which has significant influence on experience of space.

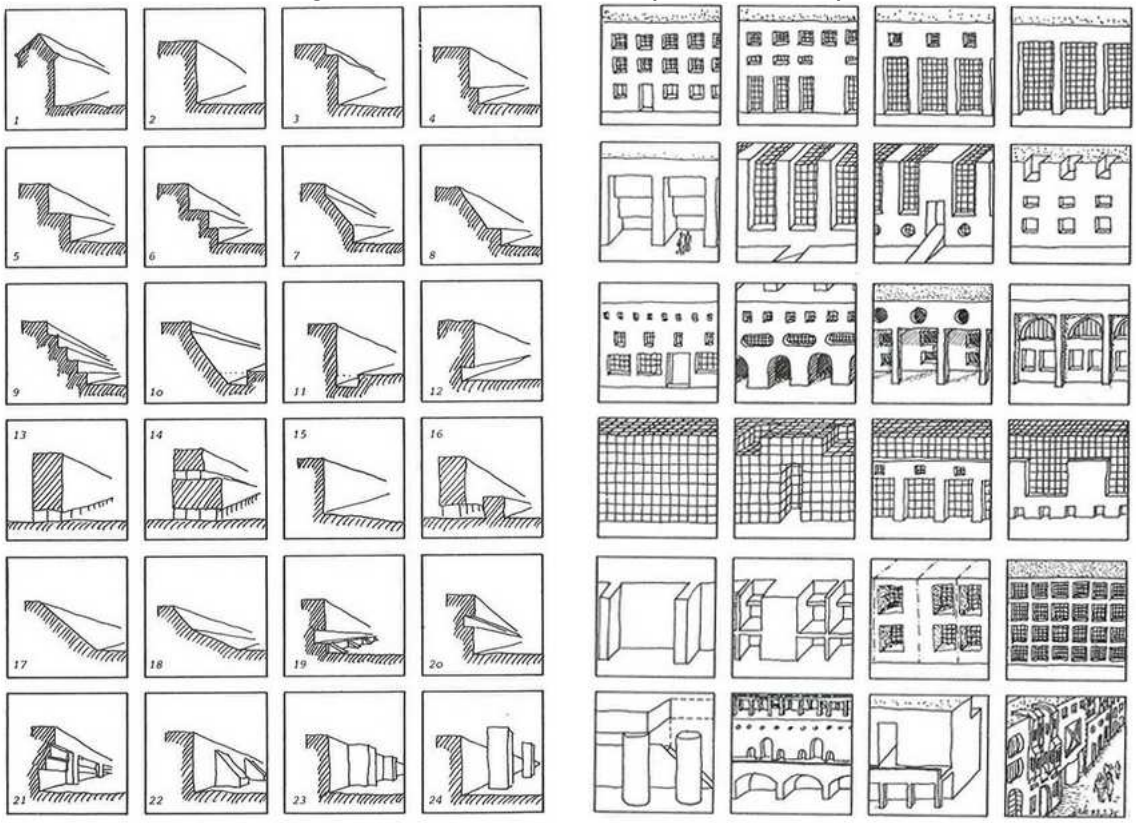


Figure 38. Variations of building profiles and elevations [44]

Being a filter, facade establishes the relationships between void and solid, between private and collective. These relationships are created in the first place by organization of openings, doors and windows. Looking at their dimension and location people can recognize the uses and qualities of interior which makes open space meaningful.

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44. Rob Krier. *Urban Space*. London: Academy Editions, 1979. First published in Germany in 1975. 174 page. ISBN 0 85670 576 4

Figure 39. Two kinds of doors[45]

The impact of fenestration could be exemplified by these images on **Fig. 39** depicting the two pitch doors. The door on the left is made of metal which makes it visually impermeable, it does not make any hint about uses and qualities of the space inside. Meanwhile the door on the right consists of a glass pane covered by metallic lattice, it's transparent enough and reveals information of interior of the building. Hence treatment of doors can give open space laying in front different quality: the urban space on the left seems alienating and insecure whereas the space on the right is perceived as welcoming and meaningful.

In general it could be said that it has favorable influence when interior domain transcends into exterior domain, when there is an ambiguous zone of transition. Since Antique times this kind of space has been associated with arcades. In the example of place des Vosges in Paris this transition zone is constituted by arcade surrounding this square. This method has been used in many famous squares, in this way aforementioned Plaça Reial in Barcelona is surrounded by an arcade that houses numerous summer cafes located there.

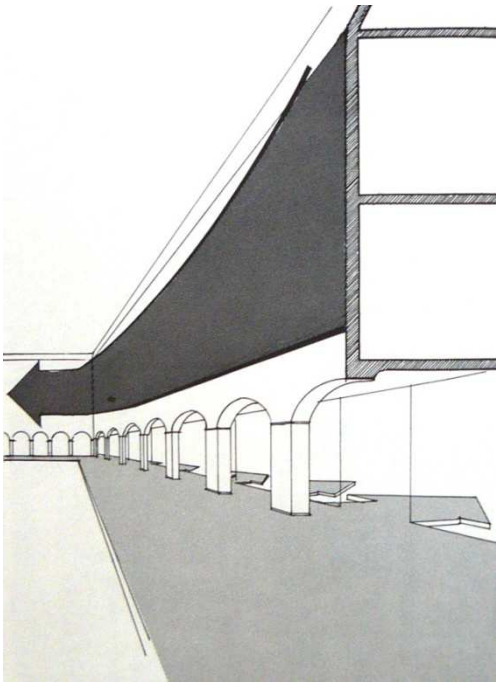
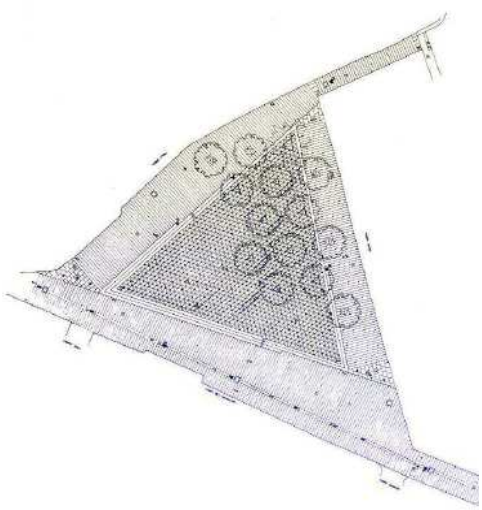


Figure 40. Analytic sketch of Place des Vosges in Paris[46]

45. Livejournal. Artemy Lebedev Blog. Available at: http://tema.livejournal.com/1687654.html

46. Raymond J. Curran. Architecture and the Urban Experience. New York: Van Nostrand Reinhold Company Inc., 1983. 221 pages. ISBN 0-442-21208-913.

Besides vertical surfaces horizontal ones play no less significant role. Treatment of ground and topography can substantially influence quality of urban space.



The use of different types of pavement can produce expressive visual effect. For example in case of Plaça George Orwell in Barcelona the shape of open space was underlined by pavement. The central part of this small square is paved with distinctive tiles constituting triangular shape which visually supports spatial organization and separates square from adjoining transit zones. Type of pavement can indicate zones of specific uses for example tiles imply primarily pedestrian use.

Figure 41. Plaça George Orwell, Barcelona [47]

Other interesting example could be presented by the Passeig de Gràcia in Barcelona which is covered by distinctive pavement that was used only in this part of the city. Due to this pavement the street not only acquires identity but also facilitates navigation and orientation, thus looking at it one can easily learn current location. The same characteristic is related to Passeig de Sant Joan which simultaneously distinguished by distinctive ground treatment.

Figure 42. Pavement on Passeig de Gràcia [48]

Figure 43. Passeig de Sant Joan, Barcelona [49]

47.Rafael Cáceres and Monserrat Ferrer. *Barcelona espacio publico.* Barcelona: Ajintament de Barcelona, 1993. 207 pages. ISBN 8476095899

48. Available at: http://www.streets-of-barcelona.com/a-walk-in-passeig-de-gracia-barcelona/

49. Available at: http://www.landezine.com/index.php/2012/07/passeig-de-st-joan-boulevard-by-loladomenech/ passeig-de-st-joan-boulevard-by-lola-dome%CC%80nech-11/

In articulation of urban space topography can serve different purposes. In the case of Praça da Batalha, Porto, topography is used to underline the geometry of square limited by facades of five buildings. The difference between levels here is used to generate flattened truncated triangle in front of the church. This figure explains the overall geometry of space and unites the separated elements into cohesive whole.

Figure 44. Praça da Batalha, Porto. The photo on the left [50] depicts previous state and the photo on the right shows the same place after transformation [51]

The function of topographical peculiarities of Parc de la Solidaritat in Barcelona is to divide the space into zones, which allows representatives of different groups to spend time here without disturbing each other. Change of level and the use of embankments reduce noise and interrupt visual connections.

Figure 45. Parc de la Solidaritat, plan [52] and perspective view, photo by the author

50. Cinemas de Paraíso. Availble at: http://cinemasparaiso.blogspot.com.es/2007_06_01_archive.html
51. Fatima Fernandez and Michele Cannata. *Urban Shapes.* Lisboa: ASA Editores II, S.A., 2001. 287 pages. ISBN 971-41-3178-5
52. Arian Mostaedi. *Urban Spaces*. Monza, 2003. 240 pages. ISBN 84-89861-92-7

Figure 46. Passatge de la Pau, Barcelona, photo by the author

Besides ground it is also necessary to mention the role of other horizontal surfaces in formulating space. Thus different kinds of canopies can generate space and establish its limits. In this way the open space under the built-up arch in Passatge de la Pau acquires special quality. Interiorness of this place is reinforced by distinctively interior treatment of upper surface of the arch.

In hot, windless climatic conditions protection from straight sun rays provided by canopies plays significant role, so covered open space becomes especially attractive for people. In some cases canopies can organize huge volumes of space being interesting examples if un-volumetric architecture. In the city of Barcelona such an example is Encants Vells located in Poblenou district. This structure presents a vast open market covered by majestic roof resting on columns.

Figure 47. Encants Vells market, Barcelona [53]

53. Archdaily.com. Available at : http://www.archdaily.com/453829/mercat-encants-b720-fermin-vazquez-arquitectos/

II.1.3. Furnishing

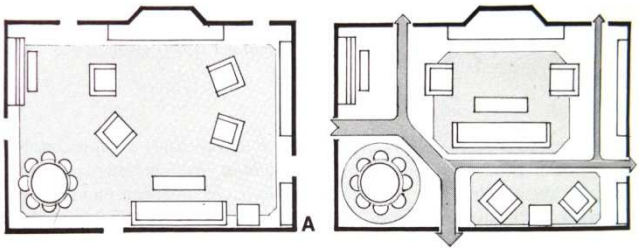


Figure 48. The role of furniture in organization of space[54]

Similarly to a room urban space is strongly influenced by objects located there. Different pieces of furniture distributed in a room provide division into specific zones, and which is more important they are supportive to certain uses. For example presence of a bed in a room makes it a bedroom or with a stove and a table it becomes a kitchen. The sketch from the R. Curran's book "Architecture and the Urban Experience" demonstrates how arrangement of furniture can establish zones and uses. As for urban space Curran distinguished three main groups of objects: focal elements, space-dividing elements and seating.

Figure 49. Via Júlia, photo by the author

The group of focal elements is presented by different freestanding landmarks such as obelisks, towers or fountains. These elements organize space around them and often reveal symbolic meaning of space. Considering the number of street sculptures in Barcelona it can be said that this element has special importance in local urban ambiance. Abstract sculptures scattered on many public spaces give identity to urban space. Moreover often sculptures are located on strategic points and thus serve as devices for orientation. For example the column on Via Júlia in Barcelona marks the beginning of street and pedestrian zone.

Figure 50. Philip Burton Federal Plaza, San Francisco, USA [55]

Simultaneously space-dividing function could be played by rows of trees that for example separates sidewalk from adjoining road. Furthermore the use of trees is important in urban space because it can change the perception of scale. And finally R. Curran stressed the importance of careful distribution of seating. Seating facilitates passive use of space and makes it welcoming. The example of careful arrangement could be provided by Philip Burton Federal Plaza in San Francisco. Benches here are grouped together within a green zone. Zone of seating is placed away from transit areas and isolated from it by the row of trees while remaining visually permeable.

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54. Raymond J. Curran. *Architecture and the Urban Experience*. New York: Van Nostrand Reinhold Company Inc., 1983. 221 pages. ISBN 0-442-21208-9

55. Arian Mostaedi. *Urban Spaces*. Monza, 2003. 240 pages. ISBN 84-89861-92-7

II.2. The pattern for Santa Coloma

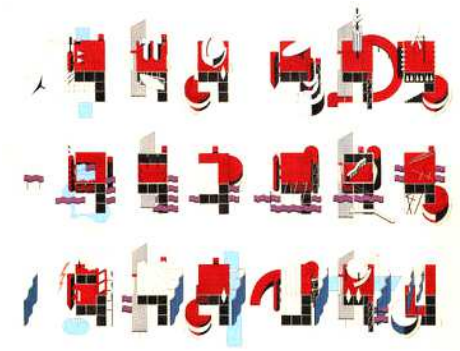

Figure 51. "Follies" , Parc de la Villette, Paris [56]

After the definition of basic elements of urban space that can be manipulated we can elaborate an approach of improvement of public space in Santa Coloma. In order to generate a strategy for dispersed transformation we propose to create a pattern of characteristics that could be utilized in every local center. The idea of a pattern is similar to the idea of "follies" presented by Bernard Tschumi in the project of Parc de la Villette in Paris. The "Follies" are small pavilions scattered throughout the park according to orthogonal grid. The pavilions perform different functions and have a variety of shapes but have two permanent characteristics: all of them are painted in red and have the same maximal dimensions. Therefore it can be said that these two qualities constitute a stable recurring pattern. We propose to create this kind of a pattern for Santa Coloma local centers. The local centers can be different according to numerous parameters but certain characteristics have to be presented in all of them. So the task is to elaborate the set of these qualities.

Figure 52. Plaça de la Concòrdia, Barcelona [57]

First of all urban space has to be clearly delimited, thus has to have definitive borders. It will allow to divide space into "here" and "there" and so to create a sense of place. Limits can be substituted by facades of buildings, like in the case of Plaça de la Concòrdia in Barcelona, or by other urban elements, thus for example in the project for Plaça de les Glòries by BLS architects the rectangular free space is clearly defined by rows of trees.

Figure 53. Project of the transformation of Plaça de les Glòries,Barcelona .BLS architects[58]

The size of a square has to be well-suited to its use without any excessiveness. This will help to avoid underutilizing and a sense of dereliction. Moreover size has to serve as a base of hierarchy of urban spaces. The squares that are important for the whole city, such as a square in front of the city hall, have to be substantially bigger to be able to accommodate significant amount of people.

56. Available at:http://benleavitt.wordpress.com/2012/08/01/formal-precedent-architectural-folly/
57. Arxiu Fotogràfic de Barcelona. Available at: https://www.flickr.com/photos/barcelona_cat/5755275348/in/photostream/
58. Available at: http://www.paisea.com/en/2014/02/plaza-de-les-glories-finalists/

In order to give open space coherence, facades of adjoining buildings have to be in certain relations, they have to conform to common example. For instance it can be the same height, the same material or the same module. Since Santa Coloma was built without general planning buildings there have little relation to their surroundings, so this method will allow to generate a local landmark.

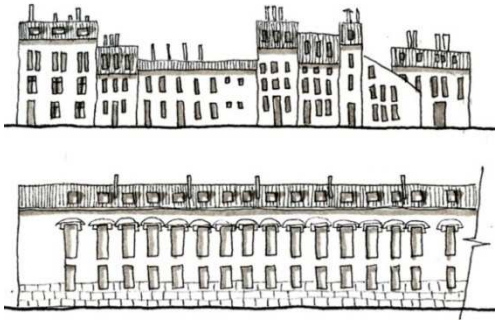

Figure 54. Typical street facade in Paris, before and after Hausmann's renovation[59]

For example thus conformity was created in the course of Haussmann's renovation of Paris when a number of new streets were built in historic center of Paris. Uniformity and cohesion of urban space was generated by keeping the same height of new building facades. Thus newly built streets acquired distinctive architectural quality and coherence. In the following project the buildings were unified by means of repetition of the same facade element- a window. The collective housing in the city of Alcoy designed by Manuel de Solà-Morales consists of a number of blocks that have different configuration whereas being unified by constant treatment of openings. The windows have constant size, proportions and color.

Figure 55. Manuel de Solà-Morales. Housing in Alcoy, Spain [60]

Figure 56. Plaça dels Àngels, Barcelona [61]

In order to make space distinctively public it's necessary to establish interrelationships between interior and exterior domain. It could be executed by creation of intermediate, transit zones that are not completely interior, nor completely exterior. This space can be presented by arcades, canopies and other kinds of semi-enclosed space. In the case of Plaça dels Àngels market space extends beyond the boundary of interior and mix with outdoor space in transition zone organized by textile awnings.

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59. A propósito. Available at: http://www.aproposito.info/projects/haussmann-plan/
60. Manuel de Solà-Morales. *A matter of things.* Rotterdam: Nai, 2008. 221. pages. ISBN 97890566220757.
61. Arxiu Fotogràfic de Barcelona. Available at: http://www.bcn.cat/arxiu/fotografic/consulta_e.html

The treatment of ground has to be different compared to ordinary pavement in Santa Coloma. Distinctiveness could be achieved by the use different materials, shape or arrangement of tiles. The small squares of local centers have to be perceived as a vast square that was taken apart and scattered across Santa Coloma.

Figure 57. Street sculpture in Barcelona, photo by the author

As for furnishing we propose to use strategy that was successfully tested in the course of transformation of Barcelona in the end of XX century: distributing street sculptures in strategic points of city. The presence of a sculpture would facilitate expressive quality of space and reveal its meaning and symbolism. Moreover street sculptures could serve as mnemonic devices facilitating orientation.

Figure 58. Small square in Santa Coloma, photo by the author

Also we propose to use the expressiveness of utilitarian urban elements such as mailboxes, phone booths, drinking fountains etc. These objects and their combinations could serve a markers of urban space. Interesting example could be provided by the space depicted on **Fig.58**. Here mailboxes, a telephone booth and a kiosk are grouped together. This set of elements could be repeated in every local center which will create mental link between the elements and a local center.

Among elements of furnishing we note the importance of illuminating equipment. The urban space of local center could be given distinctive illumination which would allow them to serve as navigation markers during the hours of darkness. Also this step would help to decrease crime rate in Santa Coloma by facilitating visual control over public space.

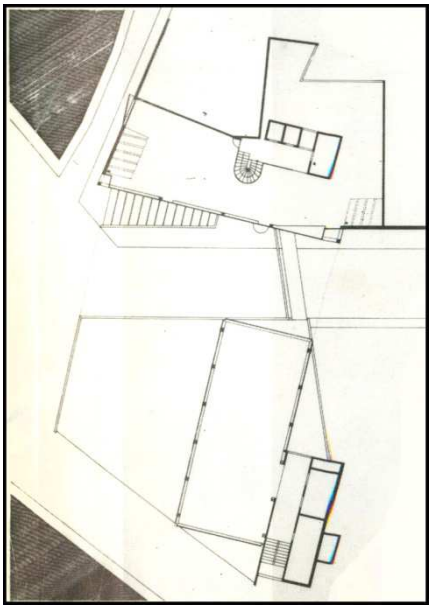
Figure 59. The influence of illumination. The building in the daytime and in the dark hours. [62]

62. Christa van Santen. *Light zone city: light planning in the urban context*. Basel: Birkhauser, 2006. 127 pages. ISBN 3764375221

II.3. Application of the pattern

The application of the aforementioned pattern to such a peripheral area as Santa Coloma de Gramenet presents certain difficulties. Magnificent urban ensembles of the past have been constructed in the most representative parts of cities being extremely expensive developments in terms of money and time. Their creation required significant political and administrative control over situation and close cooperation between parties involved. The complexities of wide-range intervention into existing urban fabric were demonstrated by the Hausmann renovation of Paris during which the French capital obtained well-developed system of open space: wide boulevards, new parks and squares. Having started in 1853 this process had lasted by 1870, even though particular works specified by this plan had been happening until 1927. On order to make such a profound transformation possible Parisian prefect Georges-Eugene Hausmann was given unprecedented power to expropriate private property and demolish buildings.

Considering the particularities of Santa Coloma, its peripheral location and potential for development, the approach to creation of open space used in course of Haussmann reconstruction is not applicable here. The effect of mass demolition of unsatisfactory housing and making wide boulevards would be insignificant against a background of tremendous financial investments and potential detriment to local community. Furthermore the problem of building an urban space is that its limiting surfaces are constituted by a sequence of facades which are built in different time by different owners, so consistent urban space is a result of mutual conformity to one pattern. In order to act in Santa Coloma we have to define a less resource-consuming way to control urban space.



As a possible method we propose the use of discontinuous buildings. Under the term *discontinuous building* we mean a building which functions are distributed throughout separate volumes. As an example of such a case we can cite a project of extension for the building of COAC (Col·legi d'Arquitectes de Catalunya) designed by Jose Llinàs in 1976. Considering that the existing building of COAC is located in the densely-built historical center of Barcelona where land to build on is extremely limited, the author had to deal with an unusual task.

Figure 60. Jose Llinàs. Extension of COAC, proposal. Barcelona. 1976 [63]

63. Alberto Humanes, Xavier Frechilla, Jose Llinas. *Jose Llinàs. Obras y proyectos, 1976-1985*. Madrid: Colegio Oficial de Arquitectos de Madrid (COAM), 1985. 121 pages. ISBN 84-85572

The project proposed to augment the existing volume depicted on the lower part of the image (**Fig.60**), by a new development across the road and provide a connection between them by means of an overhead passage. Even though creation of urban space was not a goal in this project, the part of a road between the two volumes acquires particular quality. Being positioned among two concordant facades it has certain consistency.

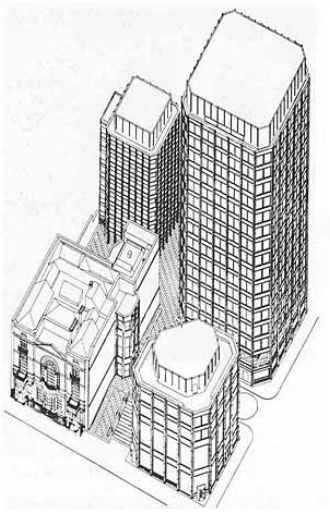


Figure 61. Alison and Peter Smithsons. The Economist Building. 1959-1964 [64]

In the next example open space plays more significant role. Acting in the central area of London built-up by small-scale houses architects Alison and Peter Smithsons decided to distribute the volume of The Economist building into four relatively small parts. Careful arrangement of these volumes generated expressive open space which is now called the Economist Plaza. In order to accentuate the role of this space, the plaza is raised above the level of sidewalk. The scale of new buildings makes intervention into existing urban fabric more organic, so the modernity of The Economist doesn't seem to contrast with surroundings. Furthermore the connection to surroundings is provided through relationships with adjoining building. Whereas two bigger volumes are freestanding, one has a common wall with neighboring building and another, the smallest volume is inserted to its dividing wall, being a part of it.

Figure 62. The Economist Building. Montage of several Economist Buildings placed into the St. James's Street city (partly as an office joke), showing the compatibility of the group of buildings with the fabric of St. James Street. George Kasabov, 1963 [65]

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64. Available at: http://gretasamsa.blogspot.com.es/2010/05/peter-alison-smithson.html

65. Alison and Peter Smithsons, edited by Chiuhua Judy Chung. *The charged void: urbanism/Alison Smithson and Peter Smithson*. New York: The Monacelli Press, Inc., 2005. 351 pages. ISBN 1-58093-130-8

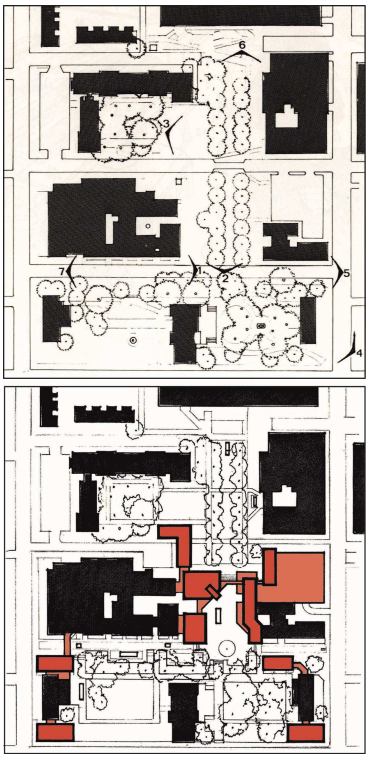

Figure 63. R. Curran. Proposal for the Collage campus development[66]

Similar approach could be found in the proposal for college campus development made by J. Curran in 1983. Investigating existing situation in the campus Curran determined that open space between the buildings was underutilized being merely a transit zone, in C. Alexander classification it was definitely a "negative" space. In order to vitalize the open space and so make it "positive" the author proposed to build a group of annexes to existing buildings on the intersection of main pedestrian routes. The annexes constituting a square contain different public functions such as a bookstore or a coffeehouse which makes this open space an important place for meeting and leisure. Furthermore by introducing new volumes Curran divided amorphous open space into a series of semi-enclosed subspaces easily recognizable as squares.

As for the very new projects designed in last years we can take as an example Tamioka City Hall, the work of Japanese architect Kengo Kuma. The building exemplifies Kuma's idea of disassembling "big architecture" into "small architectures". The building of city hall is presented as a sum of its smallest functional elements which are placed to generate a sequence of urban spaces. The modest scale of parts allows the complex to blend seamlessly into surroundings.

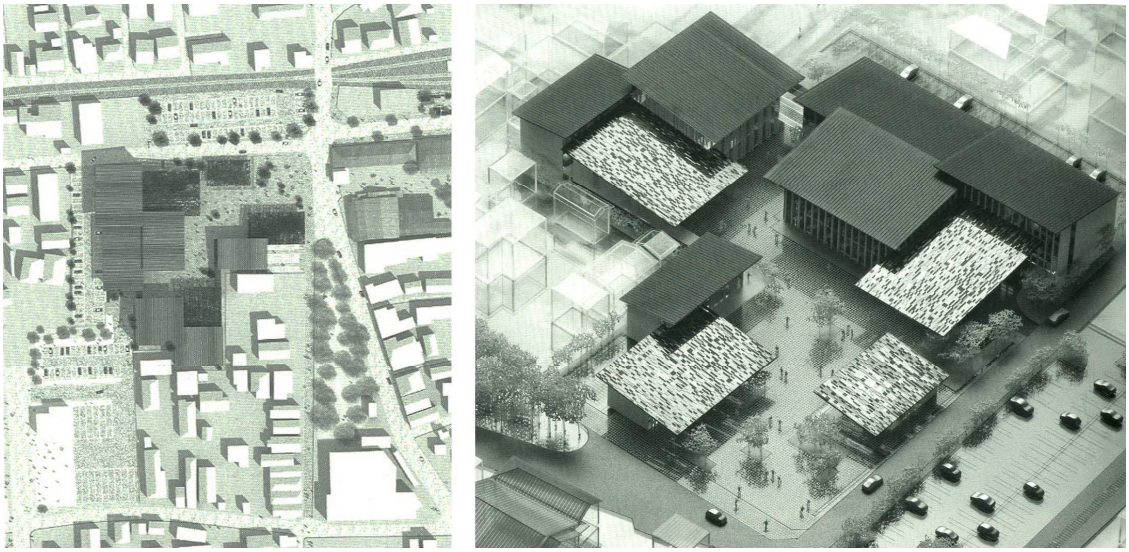

Figure 64. Kengo Kuma. Tamioka City Hall, Tamioka, Gunma, Japan. 2012 [67]

66. Raymond J. Curran. *Architecture and the Urban Experience*. New York: Van Nostrand Reinhold Company Inc., 1983. 221 pages. ISBN 0-442-21208-9

67. Kengo Kuma, edited by Yokio Futagawa. Kengo Kuma: 2006-2012. Tokyo: A.D.A. Edita,2012. 297 pages. ISBN 9784871404334

II.4. Possible intervention in Santa Coloma on the example of student project

"The area of new centrality in Santa Coloma de Gramanet"
by M. Murillo Soriano

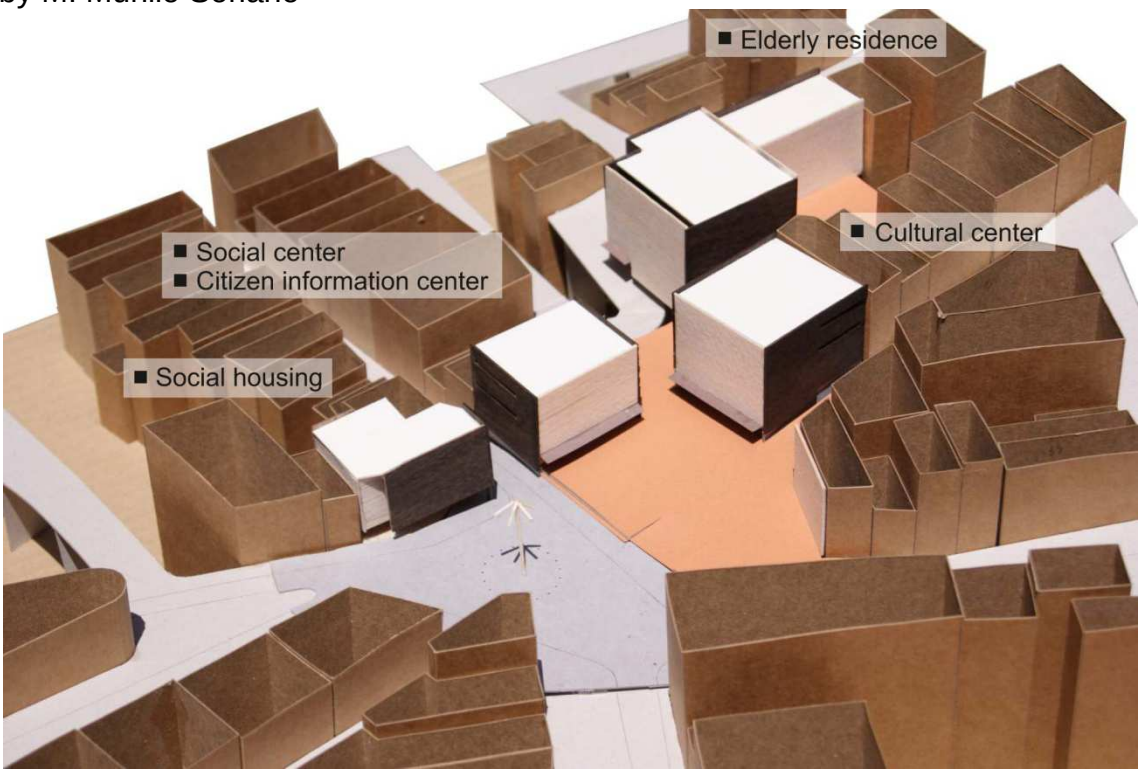

Figure 65. Volume model, courtesy of M. Murillo Soriano

Transformation of one of the points of discontinuity is exemplified by the project of new local center by 5th course student.

As a place of intervention the author chose an area surrounding the junction of six streets (C. General Moragues, C, Pau Piferrer, C. Lepanto, C. de l'Autonomia, C. de la Circumval·lació, C, Sant Pascual , C. del Rellotge), where different pieces of urban fabric awkwardly converge generating a point of discontinuity. The author takes an attempt to restore continuity by erection of four new buildings that constitute cohesive composition due to spatial relationships between them. The project implies an extensive program including a cultural center, an elderly residence, a social center and a social housing. This extensive civic program is able to attract inhabitants of Santa Coloma to this area, which in turn would make it a popular meeting point. The sum of resulting buildings could be conceived as a disassembled building which program was distributed throughout a series of smaller volumes as it was done by Kengo Kuma in the project of Tamioka City hall. Thus quite extensive program was realized operating on a number of disconnected plots of land. The use of relatively small volumes allowed to blend new buildings organically into existing small-scale urban fabric. The elements of this ensemble are interrelated by means of distinctive shape of space among the buildings which results in creation of three interconnected squares clearly limited by facades of

adjoining buildings. The semi-open square overlooking the junction is additionally articulated by means of a row of trees and benches. Furthermore because of distinctive characteristics of new public space the area of junction acquires the quality of a landmark which in turn brings diversity to the streetscape of the district and facilitates navigation. Due to these functions and their importance for community the place becomes a new local centre in Santa Coloma.

Figure 66. Street level plan, courtesy of M. Murillo Soriano

Looking at the facades we can notice the similar treatment of surfaces looking onto junction, this feature generates sense of unity. Also it is noticeable that despite the fact that buildings have different altitude, the height of ground floor openings is kept constant. Hence from pedestrian level uniformity of facades is clearly legible. Also spacious openings on the street level, allow the functions of buildings to be perceived from outside, which makes open space more meaningful and symbolic. The canopies above these openings create transitional space, thus the inside is transmitted to the outside, moreover this effect is reinforced by pavement which continues into the interiors of cafeteria and the ground floor of cultural center.

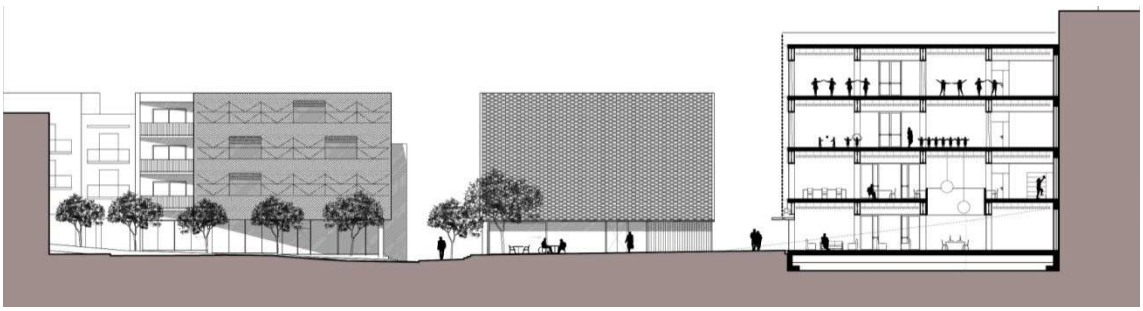

Figure 67. Section along C. General Moragues, courtesy of M. Murillo Soriano

Conclusion

Nowadays, when growth rate and expansion of cities became less intensive in Europe, the focus shifted to existing environments, their potential and improvement. This change of focus could be exemplified by numerous cases of gentrification and preservation, renovation and transformation. Previously undervalued environments draw attention and interest from architects and city planners, and some of their qualities are deemed positive now. Manuel de Solà-Morales wrote that "*the discovery that peripheries are places devoid of spatial identity can sometimes appear liberating*"[68]. In fact, peripheral zones often have great potential for transformation due to their low cultural and historical value, which often can't be related to city centers. Thus peripheral territories could be rethought and given new meaning and identity. During the decades of mass speculative construction a great number of peripheries were deteriorated and still the quality of urban life there is significantly lower compared to central zones. The requirements for cities have changed, presently the city is considered not only as a place satisfying primary needs but at the same time as a scene for communal life and public interaction. Considering that we think that the strategies for improvement of such territories will retain urgency in the near future.

The pattern described in the course of this work could be utilized in a number of areas in Santa Coloma which in turn would give identity to the whole city. Moreover the method of pattern could be used in a variety of possible situations. In every particular city a set of recurring qualities could be different depending on local conditions, such as climate, density, peculiarities of public life etc. Thus creation of recognizable set of characteristics could be a key to creation of local identity.

The idea of transformation of a city by intervention into particular strategic points proved its validity in numerous cases. Among well-known developments we could cite the Olympic transformation of Barcelona. During this process several areas were chosen for intervention. The choice of territories was based on necessity of improvement, so along with construction of Olympic objects the quality of surrounding urban environments was significantly increased. The idea of a large-scale intervention by means of a series of architectural projects was formulated by Oriol Bohigas who wrote that "*instead of utilizing the General Plans as the sufficient document, a series of One-off Urban Projects have to be imposed. It is a matter of replacing Urbanism with Architecture. It is necessary to design the public space — that is, the city — point by point, area by area, in architectural terms.*"[69]

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